SHORT-TERM MEDICAL MISSIONS IN URBAN NICARAGUAN HEALTHCARE SYSTEMS: AN ETHNOGRAPHY OF PATIENT USE AND A SOCIAL NETWORK ANALYSIS OF INTEGRATION

By

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To all the family, friends, and mentors who have supported this journey – in Texas, Florida, and Nicaragua – you have made my heart bigger, my life richer, and my understanding of this world greater.
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Short-term medical missions (STMMs) occupy increasingly prominent and complex spaces within the health landscapes of the global south. In light of the increasing role STMMs play in healthcare systems, there has been increased academic attention to the 1) ethical issues, 2) effects on patients’ relationships to local care, and 3) measures for evaluation – related to STMM care. While this research has been important, it has not contributed to broader understandings of how STMMs impact and interact with local healthcare systems.

This research examines the role of STMMs in urban Nicaragua and is based on 13 months of ethnographic fieldwork in Matagalpa and other urban areas of the country. I used participant observation and ethnographic interviewing to document how intended recipients of STMM services perceive short-term care opportunities. In addition, I used social network analysis to map the positions of STMMs within the network of healthcare providers to understand how STMMs integrate into and impact existing healthcare systems.
Studying STMMs from both a structural and social perspective, provides insights into the ideas and experiences of medical missions’ intended recipients, while also identifying how STMMs function within the context of existing networks of care. This dissertation specifically explores, 1) the continued global growth of diverse STMMs, 2) the challenges of incorporating community-based participatory research methods into solitary work, 3) the structural role of STMMs in an urban Nicaraguan healthcare network, 4) the material and spatial dimensions of healthcare experiences, 5) Nicaraguans' experiences with STMMs and the reproduction of hierarchies in an inequitable healthcare system, and 6) an analysis of how STMMs are currently framed and organized within urban settings in the global south and what roles they may fill in the future.

Overall, I argue that there is a degree of violence to medical voluntourism. I suggest that until STMMs are reconsidered as global healthcare actors and reframed as protectors of the human right to health, rather than providers of temporary relief, perhaps STMMs can be re-ordered to better work within existing healthcare systems.
CHAPTER 1
INTRODUCTION

Short-term medical missions (such as medical school health initiatives) supplement local and state healthcare services for the poor throughout the global south (Furin et al. 2006; Kickbusch 2003). The missions vary in a multitude of ways, (size, affiliation, type of service, location, duration, vision) and due to the extreme variety, conceptualizing them and theorizing about them has been limited. Further complicating this matter is the absence of an official regulatory agency or clearinghouse for short-term missions that could determine where missions go, with whom they interact, and what they plan to provide. Consequently, estimates of the full scope of global short-term medical missions’ (STMMs) work are few and far between, with one of the most recent comprehensive estimates of only U.S. STMMs dating eight years prior (Maki et al. 2008).

The short-term health trips are ubiquitous (it seems nearly everyone knows someone who was either part of a trip or treated by one), yet they are inherently difficult to study and scholars have yet to gain a comprehensive picture of what role these short-term medical providers play in the global healthcare system. Despite the limited amount of scholarship on STMMs, it is widely recognized that the number of STMM trips, participants, and patients continue to grow (Green et al. 2009; Martiniuk et al. 2012; Montgomery 1993).

The term, short-term medical missions (STMMs) is one of the most widely recognized term for the health trips, although, mission does imply a religious subtext to the healthcare provision that is not always present. This implicit association is problematic, but in order to create dialogues across disciplines, such as global health
and medicine, STMM continues to be the most useful option. Although STMM is used throughout this dissertation, I suggest that in the future a more accurately descriptive term might be adopted, such as short-term healthcare providers.

Despite what the general shortage of broad scholarly review on STMMs might suggest, itinerant medical missions have a complex history. Many scholars and physicians have recorded STMMs’ local histories in their research and in many countries STMMs have been a recognized feature of healthcare systems for more than three decades (Krasnoff 2013). Furthermore, in some ways STMMs can be seen as more recent iterations of the former colonizing missions of the global south (James and Corbett 2009). Although current medical missions may be relatively recent additions to global healthcare systems, their roots are deeply intertwined with long histories of colonization and development. Indeed, many STMMs still hold the belief that they are not only sharing access to medical treatment, but also to a better, more correct way of life (Casler 2012). The origin story of the modern short-term mission shapes the interventions STMM participants stage, but also the perception of STMMs among host communities.

I define STMMs as all opportunities or outreach programs that last four weeks\(^1\) or less and offer some form of healthcare services to the public. This encompasses the range of affiliations (such as a specific denomination or university), size of the organizations (few or multiple providers/volunteers), and types of service offered

\(^1\) Four weeks is a commonly used time frame to distinguish short-term medical work from longer projects. See Berry, Nicole S. 2014. “Did We Do Good? NGOs, Conflicts of Interest and the Evaluation of Short-Term Medical Missions in Sololá, Guatemala.” Social Science & Medicine 120: 344–51.
(surgical, dental, primary healthcare, etc.). This broad definition acknowledges the diversity of providers, who are both foreign and domestic in origin, providing healthcare services to citizens of the global south on a temporary basis.

**Why Study STMMs**

Residents of poor Latin American cities navigate intersectional identities (Collins 2000) and multiple vulnerabilities. Anthropologists have documented the conditions of healthcare service use and quality of care at many junctures (Briggs and Mantini-Briggs 2003; Farmer 2005; Kelly 2008; Lancaster 1994; Nash 1993). Previous research focused on the poor’s limited access to adequate healthcare highlighted common limitations such as: too few providers, inflexible work hours, lack of transportation, and inadequate funds to pay for services or prescriptions (Biehl 2005; Chavez 1983). Scholars have also noted the specific challenges that urban living conditions pose for residents’ health, further complicating their access to adequate care (Goldstein 2003, Nations 2008).

Meanwhile, many foreign providers have entered healthcare systems across Latin America (DeMars 2005; Ivers et al. 2008). This shift has created healthcare systems in flux as actors, who are both typically unaffiliated with each other and unregulated by the state (such as NGOs and STMMs), augment existing structures of healthcare (MacDonald 1995; Mendez 2005; Nichter 2008). Yet the increasing numbers and types of providers has not solved the problem of access that many urban poor continue to face (WHO 2008).

NGOs and IGOs receive considerable political, economic, and academic consideration as global actors providing healthcare interventions in places lacking extensive health infrastructure (Edwards & Hulme 1996; Foster 1977). A wide array of
NGO scholarship has emerged in recent decades, monitoring the medical impacts of NGO and IGO programming (Bebbington 2008), the legitimacy of their projects (Pfeiffer 2003; Schuller 2009), and the benefits of NGOs networking with each other to serve communities (Kilby 2008). Some scholars have found that NGOs often have negative effects on state service provision, ultimately weakening and fragmenting healthcare systems for the poor (Castañeda 2011; Kamat 2002).

In contrast, the medical services, organizational structure, and overall effects of STMMs have been far less scrutinized by anthropologists. Recent publications testify to the growing number of STMMs and the patients they treat (Chiu et al. 2012), but do not examine their integration into current health systems or their effects on the structure of those systems (Montgomery 1993; Pezzella 2006; Snyder 2011).

Current research on STMMs has been somewhat divisive. There are groups of scholars (and often previous participants of medical missions) praising the efforts of STMMs and their benefits for Western participants (O'Neil 2006, Saunders et al. 2015). In a somewhat more critical vein, there are also scholars who recognize the shortcomings of STMMs, but call for improved attempts at administering foreign healthcare by improving sustainability and increasing local collaboration with communities (Federico et al. 2006; Hall 1990; Khambatta et al. 2001; Oken et al. 2004; Morgan 2007; Rees 2001; Suchdev et al. 2007; Welling et al. 2010). And finally, there are scholars who question the ultimate moral quandaries of care, ethical violations, and the gravity of unintended medical and social consequences of short-term work abroad (Banatvala and Doyal 1998; Bezruchka 2000; Bishop and Litch 2000; Cam et al. 2010; Citrin 2010; Crump and Sugarman 2008; Crump et al. 2010; DeCamp 2007; Dickson

This research is valuable because it analyzes the use of STMMs within the context of larger healthcare networks in urban Nicaragua. More broadly, this research enhances current development debates by illuminating the informal dimensions of collaboration and integration of STMMs within a larger system. It is also able to bridge some of the differently critical categories of scholarship, by recognizing the larger implications of STMM work, and global realities causing the existing health disparities, while still addressing the changes that could improve this growing sector of global health provision.

Specific Research Questions

This study’s primary goal is to understand how patients and providers use STMMs in their larger healthcare networks. Secondary goals included testing whether STMMs occupied structurally equivalent roles in urban poor healthcare networks. In addition to 13 months of ethnographic fieldwork, extensive informal and semi-formal interviewing and participant observation of 11 different STMMs, I tested the following hypothesis with social network analysis to answer the research questions:

1. \( H: \) STMMs have a higher degree of structural equivalence than long-term healthcare providers.

This research question builds from the idea that the influx of providers may fragment healthcare systems and change the way patients use health services (Scott 2013). The study addresses this by explaining how patients use STMMs and the role of STMMs in patients’ health networks.
Though this research project will look specifically at STMMs, the findings will be important to broader arguments about the institutionalization of development, the weakening of the state, and the corresponding effect on citizens (Escobar 2011). The project also responds to critical medical anthropology’s call for research studying patients’ use and understanding of healthcare resources in continuously changing systems (Castro & Singer 2004). Additionally, the research provides a “nuanced social and cultural assessment” of the healthcare systems available to the urban poor (Hahn & Inhorn 2009:5) while addressing the continued problem of insufficient access despite the increasing numbers and types of providers available. This paradox poses an interesting problem, requiring a more in-depth analysis of STMMs’ roles in existing health systems that illuminates how exactly short-term services are used.

This research also embraces the ongoing project of contributing subaltern voices of those from the periphery of academic discourse to current cross-disciplinary dialogues (Gordon 1995; Harrison 1995; Mohanty 2006; Writers and Nagar 2006). While this in an inherently complicated and fraught process for a white, university-educated woman, I strive as others have, to root my research in the voices and wisdoms of the creative, nurturing, and resourceful people I was so fortunate to spend time with.

Asking questions that prioritize the opinions and experiences of those intended to benefit from STMMs is especially important in this emerging body of literature. The majority of academic writing on STMMs, has evaluated the missions’ policies (Pfeiffer 2003; Pinto et al. 2009), participants (Drain et al. 2007; Frederico et al. 2006), or processes (DeCamp et al. 2013; Khambatta 2001), rather than experiences of the
people STMMs treat and the healthcare systems they affect. All of the commentary from
previous volunteers on STMM trips reflect their personal evaluations of the projects
(Hall 1990; Hershberger 2004; Holtz 2009). Although certain STMM scholars are also
adamant that the voices that should be brought to the fore of the emerging discussion
on STMMs in global health (Citrin 2010: 62), the majority are studying STMMs from the
point of view of participants and medical professionals.

Research Setting

As a young woman traveling to Nicaragua in 2010, and later in 2013, I soon
found that Nicaragua is a place that still conjures vague images of war, revolution, and
communism for many in the United States. Many people I knew feared for my safety in
a place that they only remembered from U.S. newspaper headlines of past decades.
Nicaragua, however, is a country with a much longer history of revolution. It is a country
that has fought for its independence many times over but where people claim to have
no more stomach for violence (Robles 2016).

The History of Nicaragua’s Healthcare System

Nicaragua has a long, tumultuous history of foreign involvement and occupation.
Though the country is no longer physically colonized, it still bears scars from its past
and is riddled with constant reminders of enduring international intervention as it
struggles to negotiate internal and external pressures on its healthcare system.

NGOs have structural significance for the governability of the country…the
U.S. and corporate entities that shape bilateral policy have managed, with
a couple of brief hiatuses to exert dominance over Nicaraguan political life
for 150 years…and due to several historical factors, including disasters of
natural and human origin, Nicaragua has remained fragmented ethnically,
culturally, politically, and economically. (Fogarty, 2005: 15-16)
As Fogarty demonstrates, the constant influx of western, and largely U.S.-funded, non-governmental organizations are visible reminders of the difficult past between Nicaragua and the west, as well as omens of an increasingly fragmented future for the country. I argue that STMMs are a part of the foreign organizations and interventions that yield influence over Nicaragua, specifically the country’s healthcare system.

**Before the dictatorship**

Nicaragua’s national healthcare system in the early 20th century included basic services such as herbal medicines, simple surgeries, cauterizations, and midwifery services. Few hospitals existed, but they primarily functioned as “objects of philanthropy, charity, and comfort [rather] than cure” (Garfield and Williams 1992:10). In 1915, the Rockefeller Foundation began initiating public health programs targeting major threats to health such as hookworm and malaria, formalizing the role of multinational medical aid in the nation. Nicaragua’s General Health Administration was created in 1925 and the Ministry of Health (MINSA) later formed in 1946. MINSA’s organizational structure and objectives were largely influenced by the biomedical models used by U.S. military doctors and nurses who accompanied the U.S. occupation of Nicaragua from 1912-1933 (Garfield and Williams 1992).

In addition to private foundations, religious groups also sent medical aid in the form of long-term missionaries with medical training who settled in many places across Latin America, for well over a century – Nicaragua included (Whisnant 1996). During the

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2 More about the nature, duration, and impacts of the U.S. occupation can be found in David Whisnant’s 1996, *Rascally Signs in Sacred Places: The Politics of Culture in Nicaragua.*
early mid-twentieth century, the Baptist and Moravian missions began building hospitals in Nicaragua, offering an alternative to the existing Catholic hospitals in the country (Garfield and Williams 1992:10). The religious affiliation of Nicaraguan hospitals illustrates the extended denominational and spiritual histories governing citizens’ relationships with sites of healthcare provision. Interviews with Nicaraguan citizens about current foreign healthcare opportunities (such as STMMs and NGO clinics) revealed that many Nicaraguans see religious affiliation as a criteria for accessing certain types of foreign care.

Despite Nicaragua’s early foundation of charity and religiously-affiliated healthcare, many physicians used their medical status to gain entry into the political and social elite in the early twentieth century. In addition, many physicians (though not all) worked to reinforce and reproduce a system that equated medical practice with elitism and social rank in Nicaragua. As physicians climbed social ranks, it was more common for the elite to have established connections with medical professionals and regular access to their services. Nearly one hundred years later, interviewees voiced similar feelings about which types of people were more likely to access appropriate healthcare services – the wealthy and socially well-connected. Among all interviewed groups, social connections and capital were often tied to perceptions of increased access to healthcare.

3 It was not typically the case that Nicaraguans would be given or denied service at a hospital because of their religious affiliation, but rather the religious affiliations of hospitals marked the process of identifying healthcare resources as intrinsically tied to religious identities and institutions.
The Somoza regime

In 1933 the Marines withdrew from Nicaragua, due to the successful guerilla warfare of anti-imperialist Augusto Cesar Sandino (namesake of the current Sandinista Party) and his supporters (Babb 2001:6). Shortly after negotiating peace with the president of Nicaragua, Sandino was assassinated on orders from the head of the Nicaraguan National Guard, Anastasio Somoza Garcia. In 1936, just two years after ordering Sandino’s death, Somoza overthrew his uncle, the current president, and began the infamously cruel era of the Somoza dictatorship that lasted until 1979 (Babb 2001).

Anastasio Somoza was the first of three Somoza dictators to rule the country (his two sons followed) and he took power with the full support of the U.S. Government (Smallman 2007:146). The Somoza’s regimes were marked by varying degrees of violence, disparity, and inefficiency. Throughout all of them, there was inadequate attention to, or interest in, developing the national healthcare system. After forty-four years of corrupt dictators and miniscule national health spending, Nicaragua’s health indicators were ranked among the worst in continental Latin America (Smallman 2007).

Social and economic disparities such as landlessness, poverty, illiteracy, poor housing and sanitation, and lack of clean water or adequate food supplies directly affected Nicaraguans’ health. However, an inefficient and inequitable health system shouldered some of the blame as well. Garfield and Williams reported that the main problem was not lack of funds in the health system, but rather an imbalanced distribution of services geared primarily toward wealthy and cosmopolitan clientele (10). One study reported that 90 percent of the nation’s health resources were directed to a mere 10 percent of the population during the 1970s (Grant 1982). However, I argue that
the lack of financial and infrastructural investments further restricted who had access to appropriate care, excluding large numbers of the national population who lived outside of the major cities, could not miss work, did not have access to transport, and faced other significant challenges to access.

Even the developments that seemed beneficial for public health, such as the aforementioned formation of MINSA and the formation of a national Nicaragua Social Security Program (INSS), had negative consequences under the careless Somoza administration. The creation of too many organizations caused the healthcare system to become increasingly disjointed. During the Somoza regime there were four different national institutions and nineteen semiautonomous local agencies charged with providing health services for the population (Garfield and Williams 1992:13). Only 28 percent of the population was estimated to have effective access to healthcare services and the majority of services were focused in Managua (Donahue 1986:13). Although some health infrastructure was developed during the Somoza dictatorship, the inequitable distribution of resources, coupled with inefficient creation of overlapping bureaucratic organizations, further disenfranchised the majority of Nicaraguans from adequate healthcare.

In opposition to the Somoza regime and the increasing inequalities in the country, the National Sandinista Liberation Front (FSLN) was founded in 1967. The anger and distrust that fueled the creation of FSLN, soon flourished among a majority of Nicaraguans after the 1972 earthquake. The current dictator, Anastasio Somoza Debayle failed to respond to the disaster and used donated relief funds for personal spending. This incident of combined negligence and corruption was a tipping point for
the FSLN. Somoza’s inability to provide medical care or shelter for the injured and displaced, incensed the FSLN’s insurgency movement and grew the ranks of the Sandinistas (Smallman 2007).

The revolution

For a brief moment in history, Nicaragua captivated the world. The country was waging a successful revolution being fought on the backs of peasants, all for a more equitable future. In 1979, the Sandinistas ousted the Somoza regime and soon replaced it with a Marxist-orientated democratically elected revolutionary government (Babb 2004:543). The revolution was organized on a platform of basic services for its citizens and freeing the country from both the Somoza dictatorship and U.S. financial dependency (Walker and Wade 2011:44).

Increasing citizens’ access to nationalized healthcare services was one of the first social reforms the FSLN addressed upon taking office. Nicaragua established a national and unified health system after the 1979 Sandinista Revolution. Medical anthropologists saw this as an opportunity to, “study the dynamics of political economy, decision-making structures, class conflict, and healthcare delivery” (Ripp 1984:68). For the first few years after the revolution there was growing interest in Nicaragua’s growing healthcare system (Bossert 1984; Donahue 1984).

The new government prioritized health, yet framed it as a joint responsibility they shared with the population. The country also invited health practitioners from abroad to help them rebuild their system (Byng 1993). The new, unified national health system declared primary healthcare a basic right of all citizens and called on local volunteers to help implement large vaccination campaigns (Barrett 1993). The Sandinistas offered a drastically different approach to framing and providing healthcare that favored services
for all Nicaraguans. In the late twentieth century, FSLN seemed poised to make great strides in national health.

The Contra war

Increased spending on health was unfortunately soon made unsustainable during “the Reagan administration’s massive and multifaceted campaign to destabilize and overthrow the Sandinista government,” using both military and economic tactics (Walker and Wade 2011:49). Nicaragua’s recent independence and socialist democracy won the attention of a CIA–funded war, couched in claims of communist threats to American national security (Tully 1995:1600). The U.S.-backed Contra War crippled strides the nation had been making towards health and education reform as it absorbed the nation’s political energies, finances, and agendas between 1981–1990 (Smallman 2007:148).

As a result, spending on health and other social services decreased drastically, undoing much of the fragile infrastructure that had been created in the first few years of the revolutionary democracy. Despite the ongoing effects of the war, the early changes and gains accomplished by the Nicaraguan Department of Health did not go unnoticed. MINSA received the World Health Organization (WHO) Award for Outstanding Achievement in health in 1983 before the extent of the Contra War’s damage was realized (Garfield 1984).

The U.S. forces’ tactic to specifically target health workers and health institutions throughout the war further devastated Nicaragua’s healthcare system. Between the years 1981 and 1985, “38 health workers were killed and 28 were kidnapped while they were performing medical services; 61 health units [were] destroyed and 37 others forced to close due to contra activity” (Donahue 1986:112). By the time of disarmament
in Nicaragua in 1990, more than 65 health facilities had been damaged, destroyed or closed, illustrating the rapid progression of wreaked havoc and destruction in the nation (Tully 1995:1601).

By the end of the Contra War, Nicaragua’s healthcare system had been inundated with war casualties from both the civil and contra war and was unable to service its citizens. The rural and impoverished citizens bore much of the burden of the decreased availability of healthcare services. Vulnerable populations were specifically affected by the lack of immunizations, nutrition programs, sanitation programs, and primary healthcare (Donahue 1983).

Neoliberal reform in Nicaragua

A decade that was expected to bring great change and improvement to the lives of the working-class, the poor, and other non-elite Nicaraguans was largely usurped by international interventionist policies, another war, and failed leadership within the Sandinista and subsequent Chamorro government (Babb 2001; Kampwirth 2010:3-9). In 1990, the Sandinistas’ revolutionary democracy lost the general presidential election in an electoral upset. A moderate conservative government, the Unión Nacional Opositor, National Opposition Union (UNO) had won the presidency with Violeta Chamorro and the support of fourteen other governmental parties (Babb 2001). The Chamorro administration, continued implementing the neoliberal reforms that had begun under the Sandinista administration, but at a much more rapid pace. The new leadership immediately began dismantling many of the Sandinista’s social programs –

See Roger Lancaster’s 1993, Life is Hard: Machismo, Danger, and the Intimacy of Power in Nicaragua, for a more explicit description of the political and economic tactics that influenced the electoral upset.
health projects among them (Garfield and Williams 1992:218-230). The Nicaraguan Right began, “eras[ing] many of the gains of the revolution” as acts of violence and terrorism, mostly from the ousted Sandinistas, waged on throughout the country (Tully 1995:1599). Although largely considered a peaceful transition between ruling government parties, there continued to be fall out impacting the national healthcare system and individual citizens’ safety from both the Sandinistas and the new ruling UNO Party, as Nicaragua was hastily reinserted into the global economy (Robinson 2003:73-75).

Neoliberal programs that promised to launch impoverished peripheral nations into the center of the global capitalist economy were enacted across Latin American throughout the 1980s and 1990s. Nicaragua, along with other Latin American nations, was told that adopting a capitalist economic system would commence a “trickle down,” phenomenon that would bring economic benefits to all (Darkwah 2007:63; Harrison 2007). The trickle down effects of the new capitalist economic and political model were also expected to impact Nicaraguan’s access to health services.

The Nicaraguan Right assured Nicaraguans that under the system, everyone would financially prosper, allowing the access to competitively-priced private healthcare options, rather than reliance on the free, state services. This allowed the Nicaraguan government to invest only minimally in the public health sector while promising its citizens significant improvements in care (Dieter 2012; Lane 1995). Despite the promises to the poor, neoliberal policies have largely increased inequalities in Nicaragua (Mendez 2005) and more broadly across Latin America, leaving citizens
without opportunities for formal sector employment or affordable healthcare (Biehl 2005).

Structural adjustment policies (SAPs) that accompanied neoliberal reforms continued to weaken the nation’s health sector, drastically cutting state spending on all public services (Sutton 2007:149). Recent ethnographies have detailed the compounding effects that the combination of decreased service provision by the state and limited opportunities for formal sector employment have had on Nicaragua’s poorer populations (Babb 2001; Bickham-Méndez 2005; Weber 2006). The rapid decline in service availability further marginalized the usefulness of the few remaining healthcare options in Nicaragua. Without opportunities for formal employment, thousands of citizens lost their ability to access the healthcare provided through the nation’s Social Security Program (Thornton et al. 2010).

Thus, SAPs crippled healthcare systems throughout Latin America and the citizens that SAPs were meant to serve were left in increasingly vulnerable positions. In response, international foreign aid began to take a more central role in healthcare provision across Latin America (DeMars 2005; MacDonald 1995). In Nicaragua, many of the international NGOs began implementing programs and services to buffer state cutbacks (Bebbington et al. 2008; Fogarty 2005; Whisnant 1995) creating an additional, unofficial healthcare system of unaffiliated NGOs with minimal amounts of coordination between themselves or collaboration with the government.

The state began to play a larger role in healthcare provision once the FSLN was back in power in 2006 and revitalized spending on national healthcare infrastructure (Walker and Wade 2011:110). Although the numbers and types of NGOs working in
Nicaragua over the past decades have fluctuated\(^5\), the increase in international medical actors and aid (Thornton et al. 2010) has maintained the disjointed state of Nicaragua’s health system. There are still multiple different channels for accessing appropriate care.

In addition, the country claims one of the lowest absolute levels of per capita spending on health in the Western hemisphere and many of its indicative health statistics, including infant and maternal mortality, are far worse than its Central American counterparts (La Forgia and The World Bank 2010:138-40). Despite these dreary indicators, quality of care and access to care continue to improve under the new Sandinista government (PAHO 2012). In 2007 Nicaragua implemented the Family and Community Health Model which increased health spending and began focusing on universal comprehensive primary care and prevention (Forbes and Gutierrez 2013).

Although there is worry that current president, Daniel Ortega, is moving toward a more authoritarian style of leadership (he recently extended the presidential term limit so that he can run for office again), there is also wide recognition of his continued support for social services for the poor (Robles 2016). Healthcare spending has grown to $155 per capita in the country, showing consistent signs of continual and significant increase over the past five years (The World Bank 2011). In addition to improving health indicators, and increasing health budgets, the ministry of health has shown greater interest in regulating short-term medical missions in the past six years (Krassnoff 2013). Certainly, there are political motivations for keeping the populations that have long-

\[^5\text{For a greater discussion on the fluctuating governmental policies between state and NGOs in Nicaragua see Karen Kampwirth’s 2008, Arnoldo Alemán Takes on the NGOs: Antifeminism and the New Populism in Nicaragua.}\]
supported the Sandinistas happy and healthy (and for quieting those who have not with access to free and necessary services), but for now it appears that the trend of increased government energies and funding spent on health will be continuing.

**Matagalpa, Nicaragua**

Choosing a specific urban area to study in Nicaragua was not easy. Ciudad Sandino, a burgeoning urban city outside the capital was the original research site. However, after a few months it became apparent that STMMs did not visit Ciudad Sandino. The area was considered too dangerous by many of the STMM coordinators I spoke with. In addition, the area lacked the necessary infrastructure to entice large groups, such as nice hotels and tourist attractions. After making several treks to the northeastern mountain town of Matagalpa to observe visiting STMMs, I permanently moved the research site.

Matagalpa is the capital city of the department of Matagalpa. The city has a population of roughly 150,000 (as of the most recent census in 2012). There are clear socioeconomic divisions within the city and differential access to curative and preventive care among residents. The city center is home to older, colonial influenced architecture – large houses with electricity and indoor plumbing, as well as rooms for live-in housekeepers and balconies and patios for fresh air and small gardens. As the town sprawls outward in each direction houses are built precariously into hillsides, with zinc roofs and dirt floors. The houses become smaller, less stable, and less likely to have access to electricity or running water the further they are from the town center.

Just slightly outside of town on the south side, the lower income neighborhoods are beginning to be gentrified. A wave of new construction for the über wealthy has begun. There are hotels as large as the Public Hospital that are rarely visited next to the
mansions rumored to have been paid for with city funds by the previous mayor. The wealthy have cars, but the large majority take one of the many brightly colored buses where they need to go – fares are only five cents USD, but even that can be expensive for people living on less than $1.50 a day. Luckily Matagalpa, is a relatively easy town to traverse on foot. A trip from the most Eastern enclave of dilapidated homes to those in the far West, on the verge of being washed into the watershed takes only an hour with a quick pace.

The walk will take you from the tiny, barred home windows selling homemade *posicles*, frozen flavored ice in plastic baggies, to the giant Westernized grocery store (owned by Walmart) in the very center of town. Headshots are submitted with employment applications and everyone is in agreement that if you are over 40 you won’t even be considered. The inequalities among Matagalpiños are visible along this route. They can be seen in the changing quality of households as roofs made from tarp are replaced by zinc and then brick, in the light-skinned smiling faces of the downtown employees who have braces and full faces of make-up, and in the deteriorating cleanliness of the streets as one makes their way further from the city center’s public trashcans. As in many neoliberal economies, the local inequalities seem to be deepening between among the population.

Ability to access care in Matagalpa, however, has been steadily improving over the past few decades. Unfortunately, access to care is neither comprehensive nor universal and is not the only issue impacting Nicaraguans’ health. Many Nicaraguans are unable to schedule specialty care appointments in a timely manner, or access
surgeries or treatments unavailable in the country. In addition, nearly all Nicaraguans I spoke with lamented the difficulty in receiving and purchasing necessary medications.

Some Nicaraguan physicians argue that focusing greater attention on preventative care, rather than curative care such as medications and surgeries, might be the best strategy for Nicaraguans (Argüello Yrigoyen 2009). However, many of the same Nicaraguans that cannot afford medications or treatments are likewise unable to spend more money on recommended foods, or have the freedom to exercise outside of their day to day labor. From both a curative and preventative standpoint, poor Nicaraguans are in vulnerable positions within their own healthcare system when they are unable to access medicines and engage in preventative lifestyles and treatment.

Specifically within Matagalpa, there were many people I met who were unable to access primary care services, such as people with inflexible work or household responsibilities, and the homeless. In addition to those unable to access primary care there are many more Nicaraguans that are unable to access specialty care in the city. This is in part because some medical services are unavailable in Nicaragua (such as vascular care), but primarily because specialty care is both cost and time prohibitive for the large majority of Nicaraguans. While the people I spoke with were often optimistic about the improvements in Nicaragua’s healthcare system, they were also upfront about their need for more opportunities for specialty care and greater access to affordable medication.

Matagalpa has 9 public healthcare facilities, 4 clinics that treat the population with state-sponsored insurance, 8 health related NGOs, 78 private providers, and 9 alternative care providers (such as midwives and local healers). Over the course of the
year I located 16 different STMMs visiting Matagalpa (3 local and 13 foreign), rounding out the number of sites of healthcare provision to 124 different options. Of the 16 different STMMs, one of the primary distinctions between them was the type of services they offered. Medical care groups typically fell into two different categories – primary care provision and specialty care provision. Primary care included general consults, medication, and occasionally a referral to a local provider. The groups were comprised of volunteers with little to no medical experience such as students or church members.

Specialty care STMMs were made up of medical professionals and provided services that were either unavailable in Nicaragua, or care that could only be accessed through lengthy referral processes or expensive private care. Examples of specialty care included services such as ophthalmology, orthopedic surgery, and gastrointestinal care.

Research Methods

Participant Observation

My research methods included participant observation, social network analysis, and interviewing. My research was greatly enriched by the previous time I had spent in Nicaragua (ten weeks in 2010) and the relationships I made during that time. When I first arrived in November 2013 I reacquainted myself with former friends and research contacts and began to embed myself in Ciudad Sandino, the original research site. I lived with the Serranos, a family I had met in 2010, and began to reach out to local public health officials, NGOs, physicians, and potential research participants. I attended public events, frequented local businesses, and visited and observed public spaces. These experiences provided insight into the ways that community members conceptualized healthcare networks and providers, spoke about them, and interacted
with them outside of domestic or medical settings (Gutmann 2007:6). During my previous research in the city, I found that local sporting events, church worship services, and homes selling tortillas were popular gathering places in the evenings. I was less able to attend evening events than I had originally planned, due to safety concerns, but I was still able to attend a few public events after dark in Ciudad Sandino that helped me meet people and observe different spaces in the city.

After moving research sites to Matagalpa, I participated in many of the same events. I did not know a family in town there, but I was able to gain access to many NGOs, neighborhoods, and physicians with the help of a new friend and colleagues, Rosibel. She worked for a local NGO that facilitated six STMMs a year on average. Rosibel was very interested in the project and also in social science research, as she was conducting her own sociological research project for her university degree.

Participating in Matagalpa’s community aided in the selection of community experts who were able to help me identify local NGOs, STMMs, and individuals interested in participating in the research (de Munck 1998:44). When it was appropriate, I observed and participated in the daily activities that characterized Nicaraguans’ lives. I strove to keep my level of involvement with community experts and other research participants moderate, appropriately balancing my activities between nonparticipation and complete participation (Patton 2002; Spradley 1979). However, as we all know those lines can bend and blur during fieldwork. With certain families and STMMs I became more involved than I had intended. This was not catastrophic to the fieldwork process, it typically meant succumbing to requests that I had first attempted to deny. I
was a madrina (godmother) for a family I became particularly close with and I also ended up translating for a medical brigade despite my initial protests.

While navigating these boundaries and improving my ability to say no with a perfect blend of tactfulness and firmness, I sought out eligible individuals and households who were interested in taking part in the research. I was able to find great representation of variability within Matagalpa. I recruited households reflecting variations within three different characterizations I thought would influence use of healthcare services: household size, proximity to services, and socioeconomic status. There were large and small households, (those with 3 or less persons, and those with 4 or more), households near and periphery to the town center (those that lived in the easily identifiable center of the city and those that lived in the outlying barrios), and households of three different economic tiers (I used a map and economic indicator level used by the city).

Although I did 21 interviews with health and development professionals and observed 11 different STMMs, the bulk of my research was from studying everyday interactions in Nicaragua, and visiting the 22 different households I was able to interest in the project and obtain informed consent from in Matagalpa. Over the course of seven months I conducted 98 interviews among the households. I tried to visit every two weeks initially, but in reality it was more like every three weeks, and at times only once a month.

During the household visits, I asked if anyone in the household sought care that week. I recorded what the symptoms were, where they went, what type of treatment they were seeking, what kind of treatment they received, and if they were referred
anywhere else or asked to come back for follow-up care. These open-ended questions allowed Nicaraguans to define the domain of health as they saw fit. It was through the household visits that I was able to identify many of the alternative healthcare providers in town, such as midwives and traditional healers.

My residence in the community and level of connectedness within it created some opportunities to accompany patients on visits to various healthcare providers. I was able to visit public clinics, public hospitals, private providers, and NGOs with various families, gaining a good breadth of understanding of those occasions. I also used the public, private, and NGO health services throughout the year, gaining more opportunities to spend time in clinics, observe interactions, and interview medical professionals.

Although I had originally been worried about gaining access to public and private sites of health provision, it turned out I was often given more access than I was comfortable with. For example, when visiting the public trauma hospital in Managua with a U.S. physician, I was taken to the recovery bay for neurology patients. There were 9 men and women in the small room, each in their own bed with some personal belongings above them on a narrow shelf. The patients had varying degrees of consciousness, but most of them were heavily sedated. Many of the men and a few of the women were shirtless, using the thin sheets to cover themselves as much as they could stand in the heat. I felt uncomfortable in my role - a spectator to the pain and suffering of these people I did not know or have the opportunity to introduce myself to. The lead Nicaraguan physician took me patient-to-patient to explain what type of surgery or treatment they had undergone at the hospital.
**Structured Interviews**

In the initial phase of research I located Nicaraguan residents (14) and health professionals (7) to partake in individual structured interviews to free list local healthcare opportunities. Free listing is a technique designed to identify the contents and boundaries of the domain being studied (Weller & Romney 1988:9). In this case, free listing elicited respondents’ knowledge and use of local health providers, with questions such as, “Which providers have you or anyone in your household visited in the past 12 months” and, “List all the places that provide medical care in the community.” Collecting data from the past 12 months helped me to address the changing nature of healthcare systems and the transience of STMMs. I achieved a redundant free list after about 18 people, but I collected a total of 21 free lists.

Unfortunately, it became clear that free listing was not an appropriate way to gather a comprehensive list of providers. Nicaraguan households’ networks tended to be small (average of 7.2 providers used per household) and fairly similar (three main providers dominated the household networks). In order to gather the list of the 103 long-term providers in town, I enlisted the help of two local research assistants, Joel and Chyrs, who knew the town well. The three of us took turns canvassing the city to collect basic survey information for all Matagalpan healthcare providers. This was incredibly helpful in locating the 78 different private providers, who typically worked from their home offices in the wealthier parts of town. As mentioned, household interviews helped flesh out the list by identifying the alternative providers in town.

After locating all the sites of provision within Matagalpa, I was able to prepare the network survey. I was able to organize the survey around broadly used categories in the area including: public, insured, private, NGO, STMM, and alternative care opportunities.
Organizing the providers by these categorizations helped streamline the network survey.

**Unstructured and Semi-structured Interviews**

Many of the interviews I had with community members were unstructured or semi-structured. This gave informants opportunities to talk about all facets of their lives so that information regarding access to and utilization of healthcare was situated within broader contexts of their life experiences. At times, interviews steered participants toward conversations about their past, current, or future concerns with healthcare services, the differences or similarities in types of providers, and the roles of STMMs in Nicaragua. Interviews took place in people's homes, at their businesses, and even during long bus rides. The large number of interviews provided a representative sample of residents’ experiences with local healthcare options, the types of treatments they seek, the range of services and care available to them, and how they understand STMMs to function within their city.

Healthcare providers and development professionals who work in health (such as NGO directors) were also targeted for interviews; however, all of those interviews were semi-structured because I only had one opportunity to interview each professional. Interviews focused on knowledge and use of the healthcare system, as well as their general perceptions of health and the healthcare system in Matagalpa. Interviews also included questions asking about medical and development professionals' opinions and expectations of STMMs.

**Social Network Analysis**

The structure of Matagalpa’s healthcare system is represented by networks elicited from patients. I have been able to observe characteristics that are specific to the
content of their networks, such as the number and types of different providers, as well as structural qualities, such as the network size, density (the number of connections reported in the network divided by the total number of possible connections), and the degree of structural equivalence (Valente 2010: 128).

While compiling the list of local healthcare providers, Joel, Chrys, and myself also gathered attribute data of interest for each site of care including: duration of operation, services offered, location, and organizational affiliation among other things. This data has been used in the network analysis, but will also help inform the map of healthcare providers I am working on creating.

Fifty-three network surveys were conducted by myself and another research assistant, Lucas. The surveys were designed to be as streamlined as possible, since they included the 108 long-term providers and the 16 short-term medical missions, resulting in 124 total sites for accessing care in Matagalpa. By asking the network respondents, which healthcare providers, if any, they or someone in their household had visited in the past 12 months, I was able to collect data for a two-mode network with the participants (as rows) and the providers they might use (as columns).

Using UCINET, I was able to turn the two-mode patients’ use of providers’ networks into a symmetric, one-mode provider-by-provider network. The cell intersecting the providers represented the number of patients they co-served. The visualizations of the network data, along with further analysis are found in chapter three of the dissertation.

Data Collection Challenges

While the previous section was able to detail the methodological plans and processes in specific detail, this section conveys the difficulties faced conducting
research. As all researchers know, research almost never goes according to plan. In an effort to transparently share the process, as well as share information that may be helpful for future research plans, I detail here the major challenges I faced and changes I made to my research plan.

Despite the arduous and critically important of work achieving Institutional Review Board (IRB) approval for the research I wanted to conduct with Nicaraguans and foreign medical volunteers, there were still many moments during this project which I was unprepared for ethically. Many of these moments caught be my surprise. For example, I was once asked by a Nicaraguan nurse to follow her to the back of a clinic so that I could meet the visiting physician she had told me about. I ended up walking in on the final moments of a stranger’s colonoscopy.

It was certainly not my intention to observe all of the intimate processes and procedures I ended up being privy to over the course of the year. In fact, I tried to avoid them, knowing that the actual administration of private medical care was not my purview nor intent. However, the extension of the white, foreign privilege I experienced in Nicaragua was extended into operating rooms and medical files and photos without me ever asking. Despite my best intentions to avoid these scenarios, to look away, remove myself, or make excuses to leave I did end up seeing and experiencing moments that I should not have. The photo of Sra. Llanto, for example. I write about this struggle here to note the messy, material, and ethically ambiguous boundaries of healthcare settings, tied up with the positionality and privilege of a foreign researcher. I hope this is something I can further explore in future work.
In contrast to the ethical dilemmas, there were also data driven ones. In addition to patients’ networks, I had originally intended to collect healthcare providers’ networks as well, so that I could compare networks. After interviewing five different providers I realized that this was not a feasible portion of the study. Not only were physicians typically too busy to list all of the different other providers they referred patients too, but even when they did not seemed rushed, they had a lack of interest in the question. I tried phrasing it differently a few times with, “which other healthcare providers do you collaborate or share patients with?” but even then the Nicaraguan healthcare providers seemed miffed by my interest.

I did continue to ask, “Where do you refer patients to if you are unable to provide them the treatment they need here?” throughout my interviews with medical professionals and NGO coordinators, but generally the answer was a quick, “Pues, el hospital” (Well – the hospital). This answer was obvious to them, as the general hospital was the place where serious or emergency cases were treated. Occasionally, when pressed, a provider might tell me that they had a friend who specialized in cardiology or general surgery, and if they had a patient that wanted private care, they would give out their friends’ names.

The network of closely connected providers, referring patients back and forth that I had imagined, did not seem to exist or at least was not visible to me. Not only did the terse answers and confusion over the question steer me away from pursuing this portion of the research, but I also quickly realized that interviewing 108 long-term healthcare providers was going to be impossible with the time that I had and the other research priorities. The absence or obscuring of referral patterns between private
providers, NGO clinics, and smaller public health facilities is another finding that merits further future research.

There were other challenges in learning how to ask about STMMs. For example, the most common word used to describe them in Nicaragua is *brigada*, or brigade. Once I was able to ask about *brigadas*, I still typically needed to use specific types of *brigadas* to jog participants’ memories. I learned that identifying a *brigada* with the location it provided services, was a useful way to run through the different STMMs that households may have accessed. Thus, “brigades at churches”, “brigades at the hospital”, and “brigades at or with NGOs”, all became familiar prods in the interviews. The category, “other brigades” helped me learn about additional opportunities that did not fit the previous categories, such as the church group that provided care to the local prisoner population.

There were many other challenges in the data collection process, but for the sake of brevity I have only included a few of the more major adaptations I made during fieldwork. I was fortunate in the fact that the data analysis portion of this research yielded fewer surprises.

**Data Analysis**

**Participant Observation and Interviews**

I transcribed field notes, interviews, and audio-recordings as they were collected and imported transcripts into the qualitative data analysis software MAXQDA. MAXQDA helped me manage the text and locate occurrences and co-occurrences of themes that identified patterns and possible causal links among themes.

Using grounded theory I coded transcribed texts for behavioral and discourse themes, using those themes to guide interview topics (Bernard & Ryan 2010). Thematic
codes helped to index specific concepts occurring in the texts (e.g., references to strategies, obstacles, or explanations). Popular themes in the interviews and informal conversations about healthcare included those that I had expected, such as: cost, access, quality issues, and frustration with the healthcare system. Other themes emerged that I had not expected, including: medicine shortages, lack of knowledge of local and foreign healthcare opportunities, and preferential access to social services for government supporters. Structural codes recorded information about the type of observation, the speakers involved, and the location of the observation. I kept an excel spreadsheet of each interview conducted throughout the research period.

Social Network Analysis

The socio-centric networks constructed from network data were created with UCINET software. The software allowed me to manipulate the networks defined by patients to produce network visualizations, and compare the relationships among individual health providers and the aforementioned categories of providers (McCarty et al. 1997). UCINET software enabled visualizations comparing the organization and accessibility of different groups of providers, such as primary care and specialty care STMMs. The network maps illuminated organizational structures of integration that were not immediately apparent from the respondent-constructed networks.

In order to confirm or reject H1, I tested for levels of structural equivalence among STMMs and compared them to the levels among long-term providers. Structural equivalence is a characteristic that is rarely visible to the “naked eye” (Kadushin 2012:128) so the software was instrumental in this process. I used a cluster analysis of provider similarities to identify possible equivalence sets and then used CONCOR to
test for equivalence (Hanneman & Riddle 2005). Ethnographic research allowed me to
tell if the presence or lack of equivalent providers were theoretically significant.

Findings

The wildly exciting data collection methods and analysis are further explored in
subsequent chapters. Major findings and questions from the 13-months of research are
also shared in the chapters that follow. Each chapter is written as a standalone paper
that presents a specific section of the research. Papers have been written with different
journals in mind, so there is some variation in tone and style of writing.

Findings suggest that simply adding more sites for healthcare provision (such as
STMMs) will not remedy the access problems that Nicaraguans face. If STMMs want to
be relevant actors in urban healthcare systems, it is recommended they spend time
studying the healthcare systems that they will work within and that they are purposeful
in reaching the populations unserved by the state. Recommendations for studying the
country an STMM plans to visit are already in place (Snyder 2011). I argue that studying
the healthcare systems within those counties however, can provide insight into the more
specific healthcare needs of a community, by identifying the opportunities that already
exist.

The first paper explores the process undertaken in adjusting from community-
based participatory research (CBPR) to lone, applied, research. This paper was
published recently in Practicing Anthropology, as part of a special edition on
Community-Academic Partnerships and Ethnographic Field Training. This paper delves
into some of the other more nuanced ways my research questions and processes
changed while I was in the field. It also provides recommendations for individual
researchers, academic departments, and disciplines that are interested in better preparing their students for ethical and equitable research.

The second paper presents and contextualizes the social network data. It includes the UCINET visualizations and explains that although structural equivalency was found in the network, it was not meaningful because of the large number of very diverse healthcare actors found to occupy structurally equivalent positions in the network. This paper speaks to some of the challenges I faced in analyzing the network data, such as the differing sizes of sites of healthcare provision. It also reveals what the network did show, a significant difference between the way primary care and specialty care STMMs were integrated into the network.

The third paper uses a concept, health landscapes, that is widely found across disciplines, usually in very cursory way, and fleshes it out with a framework. Here I present what a vaguely referential term like health landscapes, could be if given more scholarly thought and ethnographic attention. The way I fleshed out the concept, was helpful in my approach to thinking about the spaces where health related events took place. This paper folds in ethnographic data from my previous research in Nicaragua (the summer of 2010) and more recent research to illustrate how the different layers of health landscapes interact with and enrich ethnographic analysis.

The fourth paper examines the interviews I conducted and field notes I collected while in Managua and Matagalpa. It highlights the common themes drawn from interviews and observations and presents urban Nicaraguans’ ideas about and experiences with STMMs in their healthcare systems. This paper evaluates how STMMs reorder healthcare and reproduce hierarchies. I work to reconcile the benefits of
STMMs with the unintended long-term consequences that trips often produce unbeknownst to their organizers or participants.

The final paper is the conclusion. More time is spent exploring the strengths and weaknesses of STMMs as questions about who benefits, and in what ways, are examined through additional ethnographic research. The theoretical impact of this work is also considered in the emerging field of STMM research, development scholarship, and critical medical anthropology. Policy recommendations are given, but tempered with the contemplation of Nicaragua’s political and economic future.
CBPR and Solo Research

This article speaks to the challenges I faced conducting an individual, applied dissertation project just months after participating in team-oriented, community-based participatory research (CBPR). Like the other authors in this special issue, I attended the 2013 Health Equity Alliance of Tallahassee (HEAT) Ethnographic Field School (EFS) in Tallahassee, Florida. Unlike those authors, however, I departed for my dissertation fieldwork in Nicaragua just a few months after completing EFS. During my time in Tallahassee, I was struck by CBPR’s purposeful prioritization of collaborative research designs, reciprocal learning spaces, and more immediate research impacts for the community we lived in and among.

CBPR practices were especially inspiring when compared to the applied research project I was beginning in Nicaragua. My main research questions were designed to study the impact of short-term medical missions (STMMs) on the Nicaraguan health care system. To do this, I planned to observe patients’ use of health care services and their experiences with STMMs. My dissertation research was decidedly applied – it focused on collecting information that would help address contemporary problems of access to medical attention – but the impacts were likely to be years down the road, and there was little planned collaboration with the community.

Though anthropologists never expect fieldwork to go as planned, I had not expected it would be my experience with CBPR that would change the course of my research. After EFS, I struggled ethically to move from the community-centered approach of CBPR to a more traditional dissertation research design that lacked community input. In response, I did my best to take what I had learned during EFS and integrate some of those principles and practices into my own applied project design. What resulted was a complicated, but worthwhile, CBPR-like approach to a traditional, solitary applied dissertation project. In the end, I felt I created a much richer, more rewarding, and in many ways, more applied research project than I had previously imagined possible.

Having worked through those challenges, I am now able to offer a few suggestions for researchers at various levels – to graduate students embarking upon applied research, to advisors guiding students, and to anthropologists interested in prioritizing more immediate positive outcomes for the communities we live and work among. This paper is not a new template for dissertation research but rather a reflection on the ethical and participant-centered concerns that anthropologists face during solitary applied research, as well as suggestions for how to enhance our research practice while addressing such issues.

**Tallahassee, Florida: CBPR Field School (EFS)**

Along with seven other graduate students, I participated in a CBPR-based ethnographic methods summer field school for five weeks in 2013. We worked with HEAT, an organization of community and academic experts addressing connections between health disparities, race, and racism in the area. The CBPR project has a unique history rooted in community questions and concerns. Its mission and objectives
were formed in collaboration with local organizations and stakeholders and reflect both academic and community interests (Gravlee, Szurek, and Mitchell 2015).

There were many qualities that made the EFS an incredible learning experience and firmly established it as a CBPR project; however, three practices stood out to me in stark contrast to the applied research design I had prepared for my own dissertation project. First, the research questions were crafted through careful deliberations that included academic researchers, community stakeholders, and representatives of local organizations. The methods training was also intentionally open to all interested parties to promote capacity building in the community and reciprocal learning spaces. And lastly, meetings were scheduled to discuss how best to make the gathered data more immediately useful and accessible to the community.

This paper focuses on introducing practices from well-established CBPR projects to more traditional applied dissertation research designs as a way to establish more equitable, ethical, and meaningful research experiences. Practicing CBPR as an early career researcher without institutional support often becomes a financial, professional, and personal burden to students and professionals (Jessee, Collum, and Schulterbrandt Gragg 2015). Thus, this article is written for anthropologists who may find themselves without the resources to establish or complete a full-blown CBPR project, but who are still inspired to integrate CBPR practices into their current or future research.

After participating in CBPR, I had a difficult time reconciling the differences between the dissertation project I had designed and the type of research I now knew was possible. I recognized that questions derived from community members, reciprocal learning spaces, and a focus on immediate outcomes for the community were both
incredibly valuable and attainable. Thus, they were the research practices I attempted to mimic as I introduced them into my medical anthropology dissertation project.

**Matagalpa, Nicaragua: Dissertation Research**

Shortly after EFS, I was on a plane to Nicaragua to begin my doctoral project. I arrived in Matagalpa to study how the STMMs, called *brigadas* by many Nicaraguans, worked in tandem with the existing Nicaraguan health care system. My project was focused on the networks of health care providers, the roles of STMMs within those networks, and patients’ ideas of the permanence and value of short-term medical interventions. It did not take long, however, for me to realize the applied nature of my project did not hold much weight with the community. Although scientific merit certainly does not rest on the recognition by or receptiveness of community members, I have found that pursuing mutually beneficial research adds great value and substance to my work.

I remember a conversation with Bernise, a military man who had become a *taxista* (taxi driver) after he lost his left leg in a motorcycle accident. He became a good friend over time, and although we never sat down to do a formal interview, I would often practice questions on him during our drives. One morning, en route to the hospital, we were suddenly and seriously stuck in the kind of traffic that only a full-fledged baton twirling, brass band parade can cause. As Bernise commented on the passing dancers, I made the most out of our newfound time.

Jessica-Jean. And the short-term medical missions…What has been your experience with them?

Bernise. The *brigadas*? They are good I guess – do I visit them? Nah. I haven’t yet anyway – but we do need more of them. Well, what I need – the truth – is a new leg, a prosthetic – this one barely works anymore and it rubs my skin raw. Can you get me one of those?
Time and again when I spoke with Nicaraguans about the *brigadas* visiting their country, their responses were directly related to how I could help them find the health resources they needed. This conversation with Bernise was just one of many conversations I had explaining my research project to Nicaraguans, who would push back with questions and comments about more pressing issues in their day-to-day lives. Although my research questions were informed by previous experiences in Nicaragua and what I identified to be an important need in the health sector, they were not questions that the community had generated. This was made painfully obvious each time I was unable to help my friends and informants in ways that would be more meaningful for them.

**CBPR Practices and Applied Research**

It was over the course of doing my research, as opposed to designing it or writing grants to fund it, that I was able to finally see my project as the *Matagalpiños* (residents of Matagalpa) seemed to. With an applied project, changes are often anywhere from two to ten years down the road, and it is often a hard sell to people with urgent health concerns. Accepting and addressing the limited and potentially even frivolous sounding nature of my work was humbling, difficult, and overall – a process. This was especially so after the incredibly rich, trying, and rewarding community-centered research I had experienced just months earlier in Tallahassee.

When comparing CBPR objectives and outcomes to a general definition of applied anthropological work, there is overlap – CBPR is after all an applied research approach. Its intent, however, goes beyond simply using research to address contemporary issues. With CBPR, current problems are addressed through research using a collaborative approach that encourages community members to participate in all
phases of a research project— including the design, data collection, analysis, and the interpretation and sharing of results. It is expected that the research will have meaningful policy or organizational implications (similar to expectations of applied anthropology) but also use the collaborative process to provide more immediate benefits and more positive experiences for the community (Israel et al. 1998). CBPR specifically prioritizes the knowledges, experiences, and desires of the community wherein research is taking place.

Soon after arriving in Nicaragua, I began integrating CBPR practices into my applied project. I was blending the idea of anthropology put to use, with a more locally rooted, reciprocal, and immediate CBPR approach. Although it was challenging to modify my dissertation research without having the necessary means to fully engage in CBPR; I feel the results are worth sharing with other anthropologists seeking to push their research toward more community-centered practice.

**Deriving Questions from the Community**

While I had not derived my questions from specific conversations with Nicaraguans who wanted to see what structural role STMMs were playing in their health care networks, I had drawn questions from previous observations about the fragmented and constantly changing health care systems Nicaraguans navigated. My research proposed mapping those systems to better understand how to make short-term interventions more effective and accessible in their outreach efforts. In addition to those research questions, I began soliciting other questions I could ask as I worked. I had conversations with community members, a few university students, a local physician, and a public health official. I laid out all the data I was collecting and asked, “What else?
What else could I ask? What would be helpful to *Matagalpiños*, or more broadly, to Nicaraguans?"

Though many did not have suggestions, a few mentioned collecting information about when and where *brigadas* would be working. A young sociology student asked if I would collect the times that the health care providers in the city were open and what services they offered. With moderate tweaking, I was able to include these inquiries into my existing research plan. This early exploration about related questions or areas of interest allowed me to collect additional information that more directly spoke to community members’ interests.

**Reciprocal Learning Spaces and Opportunities**

During my dissertation research, I learned an incredible amount from community members, health professionals, and public officials. I depended on them to explain Nicaragua’s complex health care system to me, but also the day-to-day situations I encountered as a foreigner. I did my best to share as well, but this information sharing was more the result of simply interacting with a community than the radical approach to reciprocal learning or capacity training that CBPR often advocates. In order to try to leave the community with even a fraction of what they had given me, I decided to focus on sharing some of the more formal training I had received during graduate school.

Although I did not have the resources to create a reciprocal space for learning, similar to the daily courses in research methods provided at EFS, I did have big plans for small-scale capacity building.

I worked with two different research assistants to accomplish brief methods-focused portions of the project – collecting GPS data and collecting social network data. This was something I imagined would benefit Nicaraguan university students and
potentially provide them with a skill set that might even help them find future employment. I was excited they would learn new research methods and add interdisciplinary research experience to their résumés. In theory, it was a good idea, derived directly from my experience of reciprocal learning and capacity building in Tallahassee. In practice, it was quite different.

Methods training in another language, out of the small and uncomfortably hot bedroom I rented was difficult. There was no classroom, no assignments, and no readings in Spanish I could use to finesse the more complicated portions of the methods training. The research assistants’ help was invaluable to the larger project, but I was ultimately unable to create the meaningful learning experience I had imagined.

**Usefulness of Data**

Though I achieved only moderate success with the first two ways I attempted to integrate CBPR practices into my applied research project, I am still hopeful about producing knowledge that will be more immediately beneficial to *Matagalpiños*. While I anticipate that the broader impacts of my research will improve the efficacy and accessibility of STMMs in Matagalpa, I know that those impacts are not likely to occur in the next few years. However, earlier conversations with Nicaraguans about research questions brought to my attention something I could produce that would be much more immediately useful – a map of the locations of health care providers in the city, both short-term and permanent. Using feedback from community experts, my research assistants and I collected data that will allow us to create a map with the hours of service, the types of services offered, and the relative cost of services. The map will be available in print at various clinics and schools throughout the city that supported the idea, as well as on-line for citizens with Internet access. Though not an originally
intended research outcome, it has the potential to impact the day-to-day experiences of Nicaraguans far before the policy outcomes of my research are able to trickle-down from dissertation, to publication, to presentation, to practice.

**Discussion of Challenges**

After returning from the field and revisiting those successes and failures of navigating the differences between a team-led CBPR approach and the more traditional, solitary dissertation project, I feel strongly about the work to be done by individuals, departments, and our discipline in order to better prepare anthropologists to conduct research that prioritizes the communities we live and work among.

Although there a multitude of ways to incorporate CBPR practices into applied research projects, I shared the three following suggestions as a starting place for researchers interested in conducting more CBPR-like research:

1. Share research questions with community members and research participants. Ask if there is a way to tailor or expand upon certain questions to suit community needs.

2. Invest time in creating reciprocal learning opportunities that may help develop beneficial skill sets among community members.

3. Seek out ways for applied projects to be more immediately useful to communities.

What I share next are a few ideas that might benefit us as individual researchers and as a profession. I do not argue that every dissertation or research project should be a CBPR project, but I do suggest that small changes in our approaches, our departments, and the discipline could facilitate anthropological research that more purposefully values communities’ knowledge, experiences, and desires.
Individual Challenges

It takes serious individual commitment to dedicate time and energy to achieving more immediate, worthwhile outcomes for local communities. Choosing to engage the ideas and practices that guide CBPR during applied research may not be traditional or clean cut, but it gives researchers yet another avenue through which to challenge the inherently exploitative nature of ethnographic research (Stacey 1988). There is a long and inspiring history of scholars and programs that advocate for community-focused approaches to anthropological research and have successfully facilitated, designed, and completed comprehensive CBPR dissertation projects (Schensul and Schensul 1991; Sheehan et al. 2006).

Unfortunately, many anthropologists are constrained professionally, personally, or financially in ways that restrict their ability to fully engage in CBPR. What I suggest here, is a modified approach to CBPR for anthropologists that will help them engage with some of the best practices of community-based participatory research, even if they are not able to commit to a full-blown CBPR project. This negotiation requires building in space for flexibility in research designs and the willingness to adapt questions, processes, and products when possible.

Departmental Challenges

Anthropology departments are the main site of ethnographic training for future colleagues. They are excellent places to begin fostering research design and ethics that prioritize communities’ decision-making and collaboration. And while I know there are departments that already spend time addressing these issues, I am also aware that many do not.
In my program, I took courses that helped me write about the "broader implications" of my research; in fact, I have two very convincing paragraphs I wrote for the National Science Foundation that outline them in great detail. Yet, those broader impacts did not include reciprocal learning spaces or local capacity building via skills training. Even if my research proposal had included such an objective, writing about research goals – and planning and practicing the skills needed to achieve them – are significantly different. Looking back on my fieldwork preparations, I wish I had spent time preparing resources in Spanish for the skills training I did in Nicaragua. I therefore, suggest that departments offer a class or seminar dedicated to helping students think through the ethical implications of their research, as well as more equitable ways to conduct research. This would give students the opportunity to design research projects that more purposefully prioritize research communities, as well as the time necessary to organize and prepare any additional resources.

**Disciplinary Changes**

Placing greater emphasis on the communities anthropologists conduct research with and among is something that I feel applied and practicing anthropologists are called to do. And to make a disciplinary change, it requires not only greater emphasis on change, but also greater recognition and reward – something many applied anthropologists and practitioners know well. This could be achieved through the increased visibility of researchers either conducting CBPR projects or incorporating aspects of this applied approach into their work. By sharing their resulting successes and failures, our discipline could mark CBPR projects and approaches as areas for engagement and growth.
Another way for our discipline to support more engaged and equitable approaches to fieldwork is to promote workshops and prizes for students and professionals who are either interested in, or highly successful at, engaging with their research communities in meaningful and lasting ways. Rewards, training, and recognition could be incorporated into anthropological organizations’ annual meetings for not only anthropologists but also interested community collaborators as well. In sharing this experience, I hope to contribute helpful insights to other anthropologists working creatively to make applied research more equitable and ethical. Practicing and applied anthropologists have a rich tradition of engaging communities with participatory approaches. My experiences from field school to fieldwork however, suggest that as individuals, departments, and a discipline, we can still do more to prepare and motivate students to design research that values the knowledge, experiences, and needs of the communities we work among.
CHAPTER 3
SHORT-TERM MEDICAL MISSIONS IN NICARAGUA’S HEALTHCARE SYSTEM: A SOCIAL NETWORK ANALYSIS

Global STMMs

It has been estimated that more than 6,000 U.S.-based short-term medical missions (STMMs), such as church or university led outreaches supplement local and state healthcare services for the poor (Maki et al. 2008). Though there is no comprehensive list of STMMs working globally, it is widely believed that their numbers are increasing annually, due to the growing interest in them and the decreasing price of international travel (Crump et al. 2010; DeCamp 2011). While increasing, STMMs still represent a relatively small percentage of global healthcare expenditures and efforts; however, they are frequently self-identified as services for the most marginalized populations. STMMs typically advocate treating those who may not otherwise have access to care, putting short-term groups in the position to potentially increase global access to healthcare service (Martiniuk et al. 2012).

As a group of providers, STMMs are in a unique position due to their moral or personal motivations, the groups of people they target for service, and their financial autonomy. These characteristics mark STMMs as potentially valuable resources among global health actors. This suggests that as STMMs continue to become more consistent players in global health systems it is increasingly important to understand the role that they currently play, as well as their potential to ethically and effectively expand or supplement existing healthcare systems.

Anthropologists and public health scholars have recognized STMMs as players that significantly shape the experiences of and access to health for many citizens in resource-poor countries. Current research on STMMs has investigated ongoing
concerns with STMMs, such as the array of ethical issues associated with their service delivery (Citrin 2012; DeCamp 2011). Additionally, scholars have developed measures to evaluate the quality of care delivered (Maki et al. 2008) and also gauge the perceptions of patients treated by STMMs (Green et al. 2009). There has been less research, however, assessing the structural impacts of STMMs on local healthcare systems. This research builds from the idea that the influx of short-term providers may fragment healthcare systems and change the way patients and providers use health services (Scott 2013).

This is the first study to examine how STMMs are integrated into larger healthcare systems. It explores how STMMs may cause changes in the organization and use of local health services by analyzing how patients use STMMs and mapping the location of STMMs in larger healthcare provider networks. STMMs are defined as all opportunities or outreach programs that last less than four weeks and offer some form of healthcare services to the public, regardless of affiliation (such as a specific denomination or university), size of the organization (few or multiple providers), or type of service offered (surgical, dental, primary care, etc.). This broad, yet standard definition encompasses the diverse range of providers, both foreign and domestic in origin, providing healthcare services to the urban poor on a temporary basis.

This research evaluated the role of STMMs in Matagalpa, Nicaragua over a year-long period. A social network analysis of all of the city’s healthcare providers along with 13-months of ethnographic research studying STMMs and healthcare in Nicaragua, illustrate how STMMs affect urban healthcare systems and impact Nicaraguans’ access to care. The specific goals of this research were 1) To understand how patients use
STMMs in their healthcare networks and 2) To determine what roles STMMs play in patients’ healthcare networks.

These goals were achieved by mapping the network structure of Matagalpa’s healthcare system and by testing the hypothesis H1: STMMs occupy structurally equivalent positions in healthcare networks. Measuring structural equivalence among STMMs determines whether or not these short-term providers have become integrated into existing healthcare networks in a meaningful way. For example, if STMMs occupy structurally equivalent positions within Matagalpa’s healthcare system, it could signal that STMMs visit frequently enough that residents have identified them as a continuous form of care within their health systems. Structural equivalence could also signify that STMMs have come to fill a gap within the Nicaraguan healthcare system.

Methods

The combination of network and ethnographic data does more than simply map the relationships between providers or give a feel for the general texture of the social structure of healthcare providers. The network data allows us to test a hypothesis about how STMMs are integrated within the larger social structure of healthcare providers in urban Nicaragua. A structural view of modern day healthcare systems offers a comprehensive picture of active networks, gauging the extent to which network locations may affect the use of certain providers.

Ethnographic data, such as interviews and participant observation, explain how network relationships have formed and what significance they hold in local settings. For example, understanding the relationship between the short-term vascular surgeon groups from Texas, Arizona, and Italy has provided insight into how medical professionals’ STMMs coordinate services with other visiting professionals’ STMMs.
Ethnographic research added depth to the network analysis and sparked questions for future research, such as, “Are STMM groups that coordinate with other short-term partners more likely to create and keep medical records for patients? If so, does this impact the quality of care patients receive, or their likelihood to access follow-up care?” This research highlights areas for further study, but also suggests ways that STMMs could work more effectively to improve global access to healthcare.

**Network Data**

In order to map the relationships between STMMs and healthcare providers in Matagalpa, I started with compiling a comprehensive list of all the different sites of healthcare provision in the city and all of the STMMs that visited in the past 12 months. To locate all of the healthcare providers in the city I used a combination of free listing exercises and the help of two local research assistants who knew the town well. I interviewed 19 people using the free listing technique, asking individuals to list all the healthcare providers in Matagalpa that they knew. I collected an ongoing list and used probes about different provider specialties (such as dentistry, gynecology, etc.), as well as types of care (public, private, etc.) to help jog respondents’ memories (Bernard and Ryan 2010). During this phase of research, both of the research assistants walked the centrally located streets of the city and wrote down the names and locations of all of the different healthcare providers they found. It was tedious work, but fortunately Matagalpa is organized so that the large majority of providers, about 83%, are located within a relatively small central area of the city (slightly larger than a km²). The outlying barrios rarely house a physician or clinic, thus the assistants were typically able to gain a consensus on whether there were nearby healthcare providers by asking a few different residents from the area.
Together, we located 108 permanent healthcare providers that created the long-term healthcare provision network for Matagalpiños (residents of Matagalpa). This group included 9 local public healthcare providers (such as hospitals or neighborhood health centers), 4 clinics that serviced the insured population (an estimated 10% of the national population), 8 NGOs, 78 private healthcare providers, and 9 alternative healthcare providers (such as local healers and midwives) (Path 2011). Additional research done while living in Matagalpa and interviewing groups that facilitated STMMs found that between January 2014 and December 2014, sixteen STMMs visited Matagalpa. Thus, the network survey included a total of 124 sites of healthcare provision. Those providers are summarized in Table 3-1 below.

Table 3-1. List of Matagalpa’s Healthcare Providers

<table>
<thead>
<tr>
<th>Type of Healthcare:</th>
<th>Basic Description</th>
<th># Available in Matagalpa</th>
</tr>
</thead>
</table>
| Public Health       | These services include casa bases, local health posts, health centers, and the regional hospital. They vary in size and scope, but are free to attend. | 9 Total  
1 Hospital  
2 Centers  
3 Posts  
3 Houses dispensing advice and basic medicines (Casa Bases) |
| Insured Health      | These services are only for people with health insurance or their select family members – these services are free, but members pay monthly fees to the Nicaraguan Institute of Social Security (INSS). | 4 Total  
1 Large Health Center  
3 Smaller Clinics |
| NGOs                | NGO services generally have a nominal or symbolic cost associated with them, but will usually make exceptions for patients who cannot afford them. | 8 Total  
2 Children’s Health  
6 Women’s Health |
| STMMs               | Short-term medical missions are generally free and usually cater to residents nearby the service provision. Services range from specialty care and surgery to primary care and check-ups. | 16 Total  
1 Gastrointestinal Group  
1 Orthopedic Surgery Group  
1 Ophthalmology Group  
2 Vascular Surgery Groups  
2 Audiology Groups  
9 Primary Care Groups |
Table 3-1. Continued

<table>
<thead>
<tr>
<th>Type of Healthcare</th>
<th>Basic Description</th>
<th># Available in Matagalpa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Health</td>
<td>Private healthcare services are generally the same services offered by the public sector except that they are in private clinics and thus patients must pay for them. They are more expensive than NGOs and cost-prohibitive for many Nicaraguans.</td>
<td>78 Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Neurologist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Cardiologists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Dermatologists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Orthopedists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Otolaryngologists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Urologists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Orthopedic Physicians</td>
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<tr>
<td></td>
<td></td>
<td>4 Psychologists</td>
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<tr>
<td></td>
<td></td>
<td>6 Gynecologists</td>
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<tr>
<td></td>
<td></td>
<td>6 Pediatricians</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 Internists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 General Practitioners</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 Dentists</td>
</tr>
<tr>
<td>Alternative Care</td>
<td>Alternative care designates services that fall outside of the main model of the public health sphere. They are generally more affordable and often require less travel and waiting time than other types of services.</td>
<td>9 Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Midwife</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Herbal and Alternative Clinics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 Local Healers</td>
</tr>
</tbody>
</table>

Fifty-three network interviews were conducted by the researcher and one trained research assistant. Basic demographic information was collected, as well as data on which healthcare providers that either the respondent or someone in their household had visited in the past twelve months. All questions were pre-tested and the roster method was used in order to increase respondent recall (Borgatti et al. 2013: 61). The roster included all 124 healthcare providers; and respondents were prompted by category subheadings such as “Public Health Services” and “Community Health Posts.” If a respondent confirmed that they or someone in the house had visited a “Community Health Post,” the complete list of local health posts were read to them. Respondents would then indicate which of the posts they or someone in their household had visited. The social network analysis interviews were conducted between November 2014 and March 2015.
Ethnographic Data

In addition to the network data, I also collected ethnographic data over the course of 13 months in Nicaragua. The ethnographic data collection included field notes from participant observation and semi-structured interviews. Participant observation is a tool used by social scientists, primarily anthropologists, that involves, “learning through exposure to or involvement in the day-to-day or routine activities of participants in the research setting” (Schensul et al. 1999:91). I accomplished this by living in various neighborhoods in Matagalpa over the course of the research and embedding myself in the community. I also frequented sites of healthcare provision, shadowed STMMs, and accessed public, private, and NGO health services myself.

These experiences provided insight into the ways that research participants and community members conceptualized individual healthcare providers and the larger healthcare network. Participating in Matagalpa’s community also aided in the selection of community experts and helped me identify local healthcare providers and individuals interested in participating in the research (de Munck 1998:44). I purposefully interviewed and spent time with participants from a broad range of financial and social backgrounds to reflect the socioeconomic diversity among Matagalpiños.

One hundred and nineteen semi-structured interviews were conducted during the research period. These interviews allowed informants to talk about all facets of their lives so that information regarding access to and utilization of healthcare was situated within the broader context of their lived experiences. I was able to collect data about participants’ attitudes towards: different types of providers, challenges inherit in accessing treatments or medications, and both foreign and local STMMs. I also interviewed a group of professionally affiliated participants including healthcare
providers, STMM participants¹, and NGO employees that coordinate STMMs. These were structured interviews that specifically addressed professionals’ perceptions of: 1) the strengths and weaknesses of Nicaragua’s healthcare system, 2) the role of STMMs in Nicaragua’s healthcare system, and 3) how STMM services could be improved.

The research design combined qualitative and quantitative approaches that gradually progressed from unstructured to more structured methods (Gravlee 2011). This allowed me to use earlier ethnographic data to inform the network analysis. For example, through interviews and participant observation, I was able to learn that people typically needed a significant amount of prompting in order to remember a visit to an STMM. Thus, when I asked participants about receiving medical attention from an STMM, I used categories to prompt them such as “STMMs at clinics” and “STMMs at churches.”

**Network Diagramming**

The network data resulted in a provider by household two-mode matrix. Table 3-2 presents a portion of that data. In UCINET² (Borgatti et al. 2002), I converted the two-mode matrix into a one-mode affiliation matrix that represented the relationships between providers, demonstrated in Table 3-3. The cells intersecting providers revealed how many households providers co-served in the network. I analyzed the symmetric provider network to understand how healthcare providers are connected to each other via their patients, creating an informal network of healthcare provision. The one-mode,

1 Here I mean the participants who travel with STMMs to provide services, the “voluntourists.”

2 UCINET and NETDRAW are software programs used to analyze and visualize social network data, respectively.
provider-by-provider matrix was exported to visualization software, NETDRAW (Borgatti et al. 2002). Ninety-four of the possible 124 healthcare providers were used in patient networks, thus excluding the isolates (healthcare providers that were not used in patients’ networks) the network was still sizeable. Attribute data was imported so that provider types could be identified and structurally equivalent groups of providers could be visualized.

Table 3-2. Two-Mode Matrix of Network Data

<table>
<thead>
<tr>
<th></th>
<th>P201</th>
<th>P202</th>
<th>P203</th>
<th>P204</th>
<th>P205</th>
</tr>
</thead>
<tbody>
<tr>
<td>HH1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HH2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HH3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>HH4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HH5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3-2 is a two-mode matrix depicting the healthcare providers (P201, P202, etc.) used by each household (HH1, HH2, etc.).

Table 3-3. One-Mode Network Data

<table>
<thead>
<tr>
<th></th>
<th>P201</th>
<th>P202</th>
<th>P203</th>
<th>P204</th>
<th>P205</th>
</tr>
</thead>
<tbody>
<tr>
<td>P201</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>P202</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>P203</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>P204</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>P205</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3-3 has been converted from the two-mode data (Table 3-2) into a one-mode matrix that shows whether providers (P201, P202, etc.) co-served households.

In Figure 3-1 all long-term healthcare providers are white nodes, the blue nodes are STMMs that provided specialty care, and the red nodes are STMMs that provided primary care. The red isolates on the side illustrate that the majority of primary care STMMs failed to make it into individual household networks, suggesting that they are
less integrated into Matagalpa’s existing healthcare system. The isolates\(^3\) are included in Figure 3-1 to illustrate differences in network integration between STMMs providing primary care and those performing specialty care; however, isolates are removed from Figure 3-2 since they are not active in the 53 collected patient networks.

![Network Diagram](image)

**Figure 3-1.** STMMs in Matagalpa’s Healthcare System

Additional attribute data was imported to code structurally equivalent groups within the network. Colors were used to designate the seven different groupings of healthcare providers, however, only six colors are depicted in Figure 3-2. Seven of the total 16 STMMs were not used by any respondents. They were subsequently found to be structurally equivalent with 23 other healthcare providers in Matagalpa that were not used by participants. These were the previously mentioned isolates that are not featured in Figure 3-2, resulting in the presence of only six of the seven color groupings.

\(^3\) Although not all long-term isolates were included due to lack of space. There were 7 STMM isolates and 23 long-term provider isolates.
in the visualization. The number of each node identifies the specific provider it represents and the shapes illustrates the type of provider it is (public, insured, NGOs, STMMs, private, or alternative). Node shapes designate which type of provider they were as designated by the key. Links between nodes represent how providers are connected to each other in their patients’ healthcare networks.

Figure 3-2. Matagalpa’s Healthcare System by Provider Type

The network diagram illustrates the overall structure of Matagalpa’s healthcare system, and also how disparate actors in a system can still be connected and affect each other. For example, the network shows that along with the largest public healthcare and insured healthcare providers (201, 206, and 215) there are two NGOs that are also very central to the network (222, 228). Both of these NGOs specialize in
women’s health issues and treated large numbers of the community\textsuperscript{4}. Ethnographic interviews revealed that this was in large part due to the perceived quality of NGO treatment compared to public or insured gynecological services, as well as greater trust in exam results from NGOs.

Interestingly, there was only one STMM that focused on women’s health in urban Matagalpa over the course of the year. It was poorly attended by the network respondents and only lightly attended by the community\textsuperscript{5}. This suggests that the community’s needs have been communicated to local NGOs, (there are six locally organized women’s health clinics working in Matagalpa). Further, it indicates that the needs that have been fulfilled by NGOs have also been communicated to foreign STMMs coming into the city. The STMMs focused on women’s health that were observed, were only operating in rural areas that NGOs were unable to reach. Although there is no designated channel of communication between the Ministry of Health, local NGOs, and STMMs it appears there may be some form of informal regulation and coordination between providers. The system seems to have supplemented itself with much needed gynecological care in Matagalpa through NGOs, yet has also potentially regulated the participation of STMMs from that segment of provision.

\textsuperscript{4} This was based off of the NGO’s self-reporting (nearly 10,000 patients a year), but also ethnographic research that supported the large number of women treated by the clinic.

\textsuperscript{5} Additionally, it was organized by the Ministry of Health for part of a Mother’s Day Celebration. It was only a half day at a local park with health information for women, general check-ups, pap smears, and minimal access to medication. A MINSA employee estimated a total of 40 women were seen.
Social Network Measures

Among 53 social network analysis respondents, there were 376 different connections to healthcare providers. However, since 33 of those connections were with private healthcare providers outside of Matagalpa, (in other major Nicaraguan cities and the U.S.) only 343 connections were used in the network data calculations. The average size of a network was seven healthcare providers and the range spanned between three and eighteen providers. These numbers do not account for repeated visits to the same providers, which certainly took place, but the statistics do illustrate the general size of the network of healthcare providers that urban Nicaraguans are able to access. Working with local experts I was able to group the Matagalpan healthcare providers into six widely recognized categories described in Table 3-1.

Thirteen of fifty-three respondents included an STMM in their household network, or 24.5% of the respondents. Only one of the thirteen households accessed more than one STMM in the year, though only marginally (they visited a total of two STMMs). STMMs accounted for 12.9% of the total number of healthcare providers in Matagalpa, although their presence is greatly magnified by this number, since it does not calculate for the extremely shortened duration of their services when compared to the permanent healthcare providers that operate between 40 to 52 weeks out of the year.

Table 3-4 shows that four of the six different types of healthcare providers were used by at least half of the households. Only alternative services (midwives, healers, and herbal pharmacists) and STMMs were used by a smaller percentage of the respondent population. The other data in Table 3-4 also demonstrate that even though five of the six types of providers (Public, Insured, NGO, STMM, and Alternative) make up less than forty percent of the actual healthcare opportunities in the network, they still
account for over sixty percent of the providers used in the network. This shows that most patients have somewhat diverse networks, although the ability of households to diversify their healthcare networks (especially by including private practitioners) is often dependent on their socioeconomic status. Thus, the majority of providers in Matagalpa’s healthcare network are private, which is often synonymous with inaccessible to Nicaraguans from lower socioeconomic statuses.

<table>
<thead>
<tr>
<th>Type of Provider</th>
<th>Public Health</th>
<th>Insured Health</th>
<th>NGOs</th>
<th>STMMs</th>
<th>Private Health</th>
<th>Alternative Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Houses Using Services</td>
<td>86.8%</td>
<td>50.1%</td>
<td>58.4%</td>
<td>24.5%</td>
<td>84.9%</td>
<td>39.6%</td>
</tr>
<tr>
<td>% of Total Network (124)</td>
<td>7.2</td>
<td>3.2</td>
<td>6.5</td>
<td>12.9</td>
<td>62.9</td>
<td>7.2</td>
</tr>
</tbody>
</table>

This study used block modeling to determine core-periphery structures, as well as structural equivalence to examine relationships between long-term and short-term healthcare providers. Core-periphery structures determine the most and least central nodes in a network. Block-modeling is used to identify whether or not there is a core-periphery structure and if so which nodes belong to each group. In this case, UCINET was used to apply a genetic algorithm that randomly separated nodes into two groups (core and periphery) before iteratively repartitioning nodes to maximize the variant (Everett and Borgatti 2005:70).

Determining whether there is a core-periphery structure in a network is important because it illustrates whether the network structure has a core of nodes that tend to interact with each other and peripheral nodes that are less integrated into the network, which players are more central actors in the network and which are less central and
less connected to the network (Scott 2000: 91). In a healthcare network this is especially important because it can describe how providers are used by patients, which providers constitute the core of healthcare providers, and which providers are rarely used by patients. Identifying the core group of providers can identify critical points of intervention for public health campaigns and important local partners for STMMs.

Structural equivalence is a formal network approach to identifying social roles or positions. Two actors are said to be structurally equivalent if they have the same set of relations within a network, such that one could be substituted for the other. Strict structural equivalence is rare, so network analysts measure degrees of equivalence instead (Hanneman & Riddle 2005). People or organizations occupying the same structural positions may be exposed to similar risks or challenges such as: limited infrastructure, patient needs, and financial pressures. Those in structurally equivalent positions are also likely to have similar influences on those in their networks and at times greater influence on each other (Michaelson and Contractor 1992).

Determining whether STMMs have relatively high levels of meaningful structural equivalence with other STMMs has significant implications for the patients who visit them and also the existing local healthcare system. Results could signal whether STMMs have become a recognizable feature of healthcare systems in resource-poor countries, or whether they are offering inconsistent and inconvenient services that citizens are unable to properly integrate into personal healthcare networks. Although testing for structural equivalence is only one way to study how STMMs are used and integrated into healthcare systems it is worth testing for, to gauge whether patients are integrating STMMs into local healthcare systems in meaningful ways.
Results

This research illustrated the ability of SNA to holistically study a complex healthcare system as a set of relationships between provider and patients. Its primary focus was to determine the role of STMMs within the healthcare network of an urban poor area. A hypothesis that STMMs occupy structurally equivalent positions within the larger network was tested using network analysis.

Six of the sixteen STMMs were found to be structurally equivalent with each other; however, the structural equivalence did not support the original hypothesis. STMMs were primarily grouped into two different groups of structural equivalence. Seven of the sixteen STMMs were grouped with the other 23 healthcare providers that were not used by respondents. Thus, their degree of equivalence was based solely on their position as isolates. Six other STMMs were also identified as structurally equivalent, however there were 44 other healthcare providers they were considered equivalent with. The other 44 providers included five public health facilities, all four of the healthcare clinics for the insured, six NGOs, six alternative healthcare providers, and 23 private healthcare providers. In total, structural equivalence was found among 50 of the 124 providers, making the claim of structural equivalence among the six STMMs meaningful in a different way. STMMs were not found to be structurally unique or to provide a unique service within the Matagalpan healthcare system.

Unexpectedly, all STMMs were found to be on the periphery of the network, which again would seem to be a meaningful. However, the core/periphery network measure found that only three healthcare providers constituted the core of the network, with a high degree of model fitness (0.749). The Regional Public Hospital, the Public Health Center, and the Health Center for insured patients (201, 206, and 215) dominate
the network. Private healthcare providers may have had a higher percentage of households using them, but due to the much larger number of private providers this did not result in any single highly visited private providers. The Public and Insured services had far fewer options however, and thus had individual providers that were heavily used and very central in the network. Due to the significant role that these three providers play in *Matagalpiños*’ healthcare networks it is more difficult to ascertain the positions and functions of other providers using the network data.

The measures of structural equivalence and core and peripheral nodes were distorted due to a difficulty in measuring healthcare providers. As in most healthcare systems, in Nicaragua there were large complexes of healthcare providers where anywhere from 6 to 60 physicians might work. There were also private practice spaces that only housed one medical professional. Due to this discrepancy it was difficult to accurately understand the role of individual providers. STMMs also varied in size and capability, between groups of 2 physicians that were able to treat 20 patients a day and groups of 8 specialists who were able to see 40 patients a day. When the dominant three providers (201, 206, and 215 - which were all large complexes for many healthcare providers) were removed from the network, another core-periphery structure emerged that included 28 providers at the core and 63 on the periphery. All of the 9 active STMMs were still located on the periphery, with varying degrees of coreness (measure of the distance between the node and the network core).

These network measures and results signal that STMMs do not occupy structurally equivalent roles in the Matagalpan healthcare system, providing a continuous form of care. Rather, STMMs operate on the periphery, a form of primary,
but typically specialty healthcare for certain individuals, but not one that is expected or counted on by residents as an integral or continuous part of their healthcare network.

Interestingly, some of the STMMs, specifically vascular surgery missions, do occupy unique positions in patients’ healthcare networks as the only vascular surgeons in the entire network. There are no vein treatments or vascular professionals available in Matagalpa, or Nicaragua as a whole, thus the STMMs performing this care do fill a gap in the healthcare system. As would be expected, these two STMMs (319 and 333) are still located on the periphery of the network since vein treatment is not a type of care sought by most Nicaraguans, nor available to all of them (a rough estimate would suggest that 250-300 Nicaraguans⁶ are treated annually by the brigades Matagalpa and Jinotepe.) STMMs were also found to have lower values of coreness, indicating that they tended to be further from the core than other permanent providers on the periphery. Thus, even though the majority of providers were considered to be on the periphery, STMMs were still able to be identified as less integrated into the system than the majority of their permanent counterparts.

**Limitations**

Limitations of data collection include the fact that the social network analysis data was collected over the course of five months. Due to the extended timeline, it is possible that when asked the question, “Have you or anyone in your household visited an STMM in the past 12 months?” respondents would have different timelines and thus different

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⁶ The estimate is based off of my ethnographic fieldwork and observing the two vein brigades that came to Matagalpa in the course of the year.
answers. Ideally the SNA surveys would have all taken place within the same month to avoid this complication.

There are also inherent difficulties in conducting whole network research. One of the concerns is that of being able to locate all nodes in the network (although it is less of a problem for two-mode network approaches) (Costenbader and Valente 2003). Informal or fluctuating networks, such as healthcare providers in resource-poor countries, can pose extra challenges. However, the network research was supplemented by 13 months of participant observation and ethnographic research to help mitigate this difficulty and identify as many of the Matagalpan healthcare providers as possible.

Another challenge to studying whole network data is that not only are the number and identities of healthcare actors in a network subject to change, but so are the relationships between the providers and patients (Marsden 1990). In a way, this is deeply similar to the challenges faced by anthropologists conducting research in a given community for a fixed amount of time. It reminds researchers that ethnographic work and SNA are really only able to provide a snapshot of the networks and communities they study (Abu-Lughod 2008).

**Discussion**

Previous research has studied the interorganizational relationships between healthcare providers in a variety of U.S. cities and networks (Morrissey et al. 1982; Nakoa at al. 1986; Rieker et al. 1976). SNA has also been widely used to describe healthcare systems, services, access, and providers in medical anthropology, public health, and development scholarship (Bridewell & Das 2011; Parra et al. 2011; Provan 2004; Singer & Kegler 2004). Network studies have also examined a broad range of
variables affecting the likelihood of individuals to use specific types of care (Pescosolido et al. 1998). This is the first study, however, to test the role of short-term healthcare providers in a network of permanent healthcare options. The network results show the limited impact that STMMs currently have, but also demonstrates opportunities for improvement in STMM care delivery, such as their ability to more effectively integrate into the existing system. The ethnographic data illuminated gaps in service delivery in the current Nicaraguan healthcare system, identifying other meaningful ways for STMMs to contribute to the healthcare system, for example, by prioritizing the types of specialty care Nicaraguans are unable to find in country, such as vascular and orthopedic care.

Although not frequently used, other researchers have successfully analyzed measures of structural equivalence in healthcare systems research. Guang-Xu Wang used structural equivalence measures to illuminate organizational structures of integration in Taiwan’s healthcare system in respondent-constructed networks (2012). The high degrees of structural equivalence among actors demonstrated that power distribution within the healthcare system was more interconnected and complex than initially expected. The large groups of structurally equivalent providers in this Matagalpan network similarly show a more complex healthcare system than expected. However, the network is remarkably dense, rather than fragmented (.159 density measure) and 75.6 % of the network providers are included within the main component.

High network density and a large network component do not, however, necessarily translate into larger healthcare networks for all households. A closer analysis of the data found that respondents with the lowest socioeconomic status and
lowest annual medical expenditures, were more likely to have smaller networks compared to households with the highest socioeconomic status. The average number of providers in household networks were 6.3 and 7.2, respectively. While this is not a huge variation, it still illustrates difference in access. It is also worth mentioning that two of the twelve respondents located in the lowest socioeconomic tier worked as health promoters and had healthcare networks that were nearly twice as large as the entire lower socioeconomic status group’s average. This was likely due to increased interaction with and knowledge of sites of healthcare provision. Without the health promoters’ networks, the average size health network was only 4.9 providers per household.

A discrepancy among access to healthcare services between disparate socioeconomic groups is not necessarily surprising; however, it does give STMMs an opportunity to re-evaluate how they determine which groups of patients to treat and how they locate those groups. Although the large majority of STMMs do in theory target extremely vulnerable groups, perhaps STMMs’ practice in finding and serving such populations can be improved.

Network data suggests that visits to STMMs account for about 4% of all healthcare visits in Matagalpa. Thus, while STMMs’ overall role in Matagalpa’s healthcare system is certainly not of great magnitude, it is similarly not negligible, especially as the number of STMMs continues to grow. Although the number of patients treated by STMMs was not particularly noteworthy, the types of patients treated by them were. The network data revealed that instead of STMMs reaching the most vulnerable urban populations, they were more likely to serve the Nicaraguans living in the middle
and middle-upper class areas of Matagalpa. Although a small sample, it does indicate that a follow-up study of urban STMM patients could clarify which segments of the population STMMs are more likely to reach and serve. In addition to studying which patients STMMs most frequently treat, it is important to continue seeking more effective ways for STMMs to provide care. A broader look at Nicaragua’s healthcare system can shed light on existing challenges in the healthcare system and areas for STMMs to contribute.

With over 6,000 people per public health facility in Matagalpa7 (Sequeira et al. 2011) it is evident that overcrowding issues exist, especially when one-third of the registered facilities are individual homes8. The inaccessibility of public healthcare services in Matagalpa is widely recognized and criticized by the general public.

Matagalpa also has the highest number of residents per hospital of any department in the country, nearly double that of the hospital with the second highest ratio. Many Matagalpiños expressed general frustration with the fact that public healthcare is the only long-term care provision that all Nicaraguans can afford and even public care and is often seen as inaccessible to many of the residents.

The Nicaraguan Social Security Institute (INSS), which provides healthcare for the formal sector workers, covers about 10% of the population. Similarly, it is estimated

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7 Though this number is not particularly large when compared with data for other large, developed cities, (for example there are 7,815 people per health facility in Washington, D.C. – see http://health.geoplatfom.opendata.arcgis.com) the difference is that the facilities in Nicaragua are not equipped to deal with the same capacity of people as hospitals and health centers in the United States or other resource-wealthy countries.

8 This is Nicaragua’s Casa Base plan, which designates individual households in communities as sites of healthcare provision where people can receive access to some medicines and referrals to healthcare centers or the hospital.
that only a small percentage of the population are able to afford exclusively or predominantly private healthcare services (Sequiera et al. 2011). Many Nicaraguans I interviewed reported not being able to afford private services. If respondents did spend resources on private healthcare services, it was usually only for emergencies or to supplement what the public healthcare system could not provide them. For example, 60.4% of the respondents did access a private dentist and for 12.5% of those households it was the only type of private healthcare accessed. For 43.8% of households paying for private dental care, it was one of only two private health expenses in their network. Thus 93% of the households that used private healthcare services only accessed one or two types of private healthcare.

Although public healthcare attention in Nicaragua is free, there are still costs associated with treatment that are prohibitive for many of Nicaragua’s most disenfranchised. Many prescription medicines are not stocked by the health centers and hospitals that patients need. In such cases, patients are expected to buy medicines from a private pharmacy. Patients are also responsible for purchasing necessary equipment for surgeries (such as gauze or metal screws) which can be both expensive and difficult to find. The public healthcare system is further limited by the fact that there are a variety of services that are simply not offered to patients. This is typically because there are no trained medical professionals to perform such tasks or the trained professionals lack the necessary medical equipment (Sequiera et al. 2011). A final hindrance to using the public healthcare system is that people are often on waiting lists that are so long they are afraid they will not receive treatment in time. For example, the cancer hospital, Roberta Calderon, in Managua is incredibly overburdened. I met
several Nicaraguans who told me cancer is a death sentence there, unless you know someone or have money.

Despite its expanding public healthcare model, Nicaragua still has a largely inequitable distribution of services and a significant population of underserved patients. Many of the STMMs that visit Nicaragua do so in an effort to reach these vulnerable populations. The need for more accessible and affordable care is evident in Nicaragua and was enthusiastically welcomed by the majority of Nicaraguans I interviewed. Accessing the network data in light of the realities of the local healthcare system indicates that professional dental work is of great importance to the majority of respondents and also where many households of limited means spent money for private healthcare. STMMs could prioritize dental care as a way to reduce the financial burden of accessing private dental care for lower income households. Additionally, STMMs could bring basic surgical components such as gauze, needles, suture thread, and bandages with them to donate locally. Even if STMMs are unable to provide specialty care they could supply local hospitals with supplies to treat low-income patients.

**Conclusion**

This study found STMMs to occupy structurally equivalent roles in healthcare networks in urban Nicaragua. However, due to the large number of other providers that STMMs were found to be structurally equivalent with, the results do not prove that STMMs are recognized actors, used in permanent or continuous ways in urban poor healthcare systems. Core-periphery findings indicate that overall specialty care STMMs do a much better job of integrating into healthcare networks. This could be because they typically treat larger numbers of patients, and offer services in the city center as opposed to specific neighborhoods. Regardless, it calls into the question the immediate
and long-term effects of STMMs that provide primary care in urban settings where access to primary care is already available. Perhaps if primary care STMMs are functioning primarily as mobile pharmacies, the medicines would be better off being donated to local healthcare facilities.

Network survey findings also indicated that STMMs may be more likely to serve wealthier Nicaraguan citizens who have disposable income to spend on health and thus greater access to larger health networks, rather than the “poorest of the poor” as many STMMs describe their target population. Thus important findings were made about both the location of different types of STMMs in the healthcare systems and the specific sub-populations of patients accessing STMMs.

Identifying ways to study the role of STMMs within healthcare systems continues to be an important undertaking due to their increasing annual numbers and their potential to supplement existing healthcare systems in meaningful ways. Although there are certainly serious ethical issues with STMMs (Bellows 2014; Citrin 2012; DeCamp 2011), medical missions continue to be a growing force in global health. As such, identifying the best ways for STMMs to work alongside healthcare systems to strengthen infrastructure and improve access to services is still an important academic venture. Additionally, further research using a larger sample of urban residents could better determine which groups of patients STMMs are primarily serving. The lack of trained physicians in certain specialties signals another area where STMMs could improve local health infrastructure – the short-term trips could invest in and deliver hands-on training resources for local medical professionals.
Policy Recommendations

Recent international reports have recognized that improved infrastructure of and access to social programs, such as healthcare will not only improve Nicaraguans’ health, but also contribute to reducing poverty and economic inequality in the country (The World Bank 2011). If STMMs are serious about contributing to global healthcare systems in a meaningful way they can work harder to focus the impact that they have with vulnerable and marginalized populations. Suggestions for modifying the way STMMs provide service locally are provided below. Short-term providers can also partner with local public health facilities to improve local infrastructure by providing medical supplies and training opportunities to health professionals.

STMMs that work abroad should plan to spend the time or money on communication strategies that are likely to reach a broad audience of people. The vascular surgeons employed radio and commercial advertisements, without having to pay for them, simply by using their community partner and local NGO, Clínica Fara, to let the appropriate parties know. In Nicaragua, and likely other resource-poor countries, radio is still the main way to reach the largest number of citizens. Usually there is no need to pay to advertise an STMM either; when free healthcare services are offered, local media is usually happy to promote it. Another way STMMs could improve their

9 In Nicaragua, this would be the Mayor and local government, as well as the popular radio and television stations.

10 Although depending in the local or national government, sometimes the work of STMMs can risk be coopted by a ruling party or public official. One of the vascular surgeons recounted his excitement when seeing an interview with patients awaiting treatment from his brigade at the clinic one day on an evening news segment while in Nicaragua. His excitement soon turned to shock and frustration as a local official stepped in front of the line of patients to claim that Daniel Ortega’s government had organized this vascular surgery treatment for the good citizens of Nicaragua.
accessibility to marginalized populations is by providing care after typical work hours. Many of the lower-income respondents reported not being able to attend STMM clinics because they were at work or could not leave the house during those times (meaning either people were at work and they had to stay home\textsuperscript{11}).

Since there is no regulatory board governing STMMs working abroad, these are policy changes that must be made by individual STMMs, national governments, and the local NGOs and community partners that support STMMs. The lack of international oversight could be a short-term benefit in this case, however; as changes among individual groups and trips can often be made in a timelier manner. If STMMs were to occupy structurally unique spaces in healthcare systems, local and national governments could perhaps better prioritize new healthcare infrastructure, training, and spending. Although running the long-term risk of dependency on foreign services, public health departments could count on unique service provision by outside providers and focus their attention on services that citizens lack regular access to.

Mapping the healthcare networks of Nicaraguans and listening to their ideas about healthcare and STMMs has identified tangible ways that STMMs can more effectively work toward global health equity and access. While this may not be the primary goal of all STMMs, perhaps these findings can at the very least spur discussions about coordination, if not reform, among the short-term ventures in global healthcare system.

\textsuperscript{11}In low-income areas it is considered unsafe to leave your home unattended during the day due the likelihood of a robbery. This is yet another issue disproportionately affecting the most vulnerable populations.
Vignette #1 Jessi

The truck jolted into park outside an old concrete building with a wrought iron door swung open to the front. The quick stop left the crucifix hanging from the rearview mirror swaying and my stomach up in my throat. I had to be helped out of the car that had driven us the three miles to town and inside the dirt floor clinic that served a large majority of the Dario residents. There were only two chairs inside the waiting room and both were occupied by new mothers and their infants. One was nursing and diverted her eyes as we walked in, the other was trying to shush her baby's cries, bouncing him on her knees and taking breaks to rub his back in circular motions. The room wasn't large, but I noted that it could have easily held more chairs for waiting patients.

As Mercedes, my host, went and checked me in at the counter I propped myself up against the wall and tried to maintain a certain level of blood in my head. My efforts were useless; I began to sway and I slowly slid down to the dirt floor. By the time Mercedes turned around I had my back against the dusty white wall with my head tilted back and my eyes closed. “Estás bien Jessi?” she asked. I used the least movement possible to nod yes, I was trying to keep down the little bit of water I’d been able to take that morning. We waited five minutes that felt like twenty.

Even though I knew better I gave into the desire to put my head down on the dirt floor and rest until it was my turn. As I did, one of the mothers stared at me seemingly startled by my willingness to embrace the floor with my face. Mercedes noticed too, she had been standing but quickly squatted down next to me. “You can’t do that here!” she said surprised, pulling me back up against the wall. She told me I could sleep in the
truck if I had to, but that I couldn’t lay on the clinic floor. I asked her how long the wait might be and after her answer determined I had better lay down in the truck.

I managed to keep the water down after all, but I likely sweat it out in the first three minutes back in the stifling cab. I fell asleep quickly and awoke to Mercedes knocking on the window calling my name and telling me to get inside. I followed her past the new patients who had since arrived and taken the pair of vacant seats left by the mothers. We entered a poorly lit room with a large leather chair and I tried to piece together a timeline of my symptoms for the doctor. I was told to go to the next room over in the small chain of vertical rooms comprising the clinic and there I found a room with three walls opened up to a courtyard of other peoples’ patios, some roosters, laundry, and what appeared to be a small arrangement of mango trees.

There were no chairs in this room, the largest of them all, but there was an oversized mattress with a rubber cover on it that I was directed to sit on. I heard the depression in the plastic as I sat and watched an older female nurse walk toward me and stop at the crucifix on the wall next to me. I thought she might be stopping for a quick prayer, but she was instead beginning another ritual; preparing to revive a gringa. She carefully took the cross down and placed it on a small table, empty except for a silver tray of supplies. She turned and took the bag of fluids and electrolytes from the doctor and strung the IV up on the now empty nail.

After situating the IV in my left arm she said I could lay down and that it would take some time. I was happy to be able to put my head down and I lost no time in returning to slumber in the thick Nicaraguan heat. Upon waking, I realized my face had been plastered to a laminated digestive track illustration lying on the mattress half
covered by a thin sheet draped across the top of the bed. I wiped my cheek and pulled it back to see it was labeled in English and not in any apparent use. The nurse took the needle out of my arm, the IV off the wall and replaced the crucifix waving goodbye and calling “Que te sientas mejor” as we left.

**Health Landscapes**

Cultural narratives and individual experiences of health and illness such as this one, illustrate the complexity of decision making processes, embodied knowledges, global development policies, and local histories bound up in spaces related to health. In this paper, I explore the concept of health landscapes as a way to deal with the complexity of spaces and places associated with health. Health landscapes are by no means the only ways to approach the spaces surrounding encounters with and expressions of health and illness, but rather an opportunity to explore the possibilities of a term that is frequently used across disciplines to broadly reference a space related to health in a cursory manner.

The conceptual exploration of health landscapes illustrates the material presence of health in Matagalpa, Nicaragua and how things such as wear and use unfold over time and space. I approach health landscapes from a multi-dimensional standpoint, observing how the spatial, contextual, and relational aspects of Nicaraguan healthcare systems can help me better understand and deal with the intricacy of the healthcare system and the diverse array of experiences within it.

Conceptualizing Nicaraguans’ layered and complex experiences of health and illness as individual and shared health landscapes has allowed me to pay attention to what it is like to inhabit them, what patients feel, experience, take for granted, or know they will have to deal with at a later date. It is a purposeful attention to the human
experience of health environments that has allowed me to take a once casually used and underdeveloped concept and enrich my own ethnographic work. I am certainly not the first to explore the spaces, relationships, and meanings associated with healthcare and this writing and thinking build on the work of many theorists and scholars who have come before me (Cosgrove 1985; Hirsch et al. 1995; Ingold 1993; Kearns and Joseph 1993; Lefebvre 2011; Low 2001; Soja 2010; Strathern and Stewart 2003).

Although this conceptualization of health landscapes is not yet clearly situated among the existing literatures by which it was inspired, it did provide me the opportunity to work through the rich ethnographic data I collected in a way that prioritized the sticky, fragile, and textured spaces and places I encountered. Despite its shortcomings, I do believe health landscapes, as explored here, can be a beneficial way for other students and scholars of medical anthropology, public health, and medicine to think about an oft-used term that is not usually fully explored.

Health landscapes are the culturally, historically, socially, politically, and economically informed spaces in which health interactions take place. These landscapes and the people inhabiting them are influenced by and interact with larger forces such as patterns of global disease and disaster, changing geographies, and local and international health and economic policies. Unique regional histories also influence how the new iterations of neoliberalism, economics, politics, and global priorities manifest throughout the global south and affect health landscapes.

As a foreigner in Nicaragua, I was clumsy in navigating a new space and was guided by people who understood the unspoken rules of the local clinic. Foreigners as patients in urban Nicaragua’s healthcare system are becoming more common place and
my presence was not surprising to anyone there, nor was my illness. I however, did feel out of place, ill, and unknowledgeable working my way through a healthcare system I was unfamiliar with. I awkwardly traversed the health landscape in urban Dario on multiple planes, but most prominently: geographically (finding a nearby clinic), contextually (trying to understand how to present myself); and moreover relationally (adjusting to the layout and process in this new place as compared to clinics I am used to in the United States).

My first episode of illness in Nicaragua opened my eyes to the array of forces that shape and are shaped by healthcare systems. This realization, led me to develop a term I frequently came across in diverse literature, health landscapes, into something that I could employ in my own work to explore and underscore how healthcare systems are complex, active spaces. Health landscapes are intertwined with global and regional health systems, a host of international, bilateral, national, and local institutions, as well as a range of social movements including those promoting women’s access to health, alternative medicines, and health as a human right. Health landscapes are places that people operate within, but also leave marks on, as individuals indicate their own boundaries and navigate their own care.

In order to explore this concept I use a framework that outlines three dimensions of health landscapes: geographical, contextual, and relational. These components are not necessarily mutually exclusive categories, but they do suggest different ways to conceptualize what constitute health landscapes. I flesh out these dimensions in my own research setting, urban poor areas of Nicaragua. Specifically, I use ethnographic research focused on the interactions people have in spaces related to healthcare and
their attitudes and relationships to health and healthcare services to develop/present the concept of health landscapes more concretely.

Throughout this paper I draw on some of the major contributions to landscape theory as well as important overlaps between spatial and medical thinking to situate health landscapes within the longer history of thought from which they emerge. I pull work from various disciplines to elaborate upon the potential that this oft-used term has to become more purposefully used in a variety of disciplines as an additional tool for thinking about space, place, and health.

**Health landscapes.** A wide array of academic literature incorporates the use of landscape in their writings, but this is often in expression alone. The landscape of death, the landscape of abandonment, landscapes of hope and punishment all create powerful images in the reader’s mind. One can imagine the treacherous obstacles and difficult to distinguish paths, that must create such places. This highlights one of the great strengths of landscapes in concept; it is something we can imagine ourselves in and indeed we have been taught to do so since a young age. Stories always begin with a setting. The inherent imagery associated with landscapes also highlight their potential to develop into something more complex, creating a space of possibility and a framework for understanding. We can take landscapes as a starting place, and grow them to explain the multitude of layers and meanings in the spaces around us.

Building off of previous ideas about landscapes (Cosgrove 1985; Foucault 1986; Lefebvre 2011; Low 2001; Soja 2010), I too understand them to be more than merely settings for action. Rather landscapes are places and spaces that shape experiences, reproduce realties, and that can be contested by their inhabitants. There are a myriad of
forces acting upon landscapes and multiple representations and realizations of health landscapes that people occupy and expand upon. Landscapes are created physically, socially, politically, historically, and individually and they are contested along all of these lines. I go beyond looking at the location of people within landscapes and consider also the relationships of people to the continually moving parts around them affecting their ability to seek and achieve health through behaviors, lifestyles, and treatment. The framework of landscapes afforded me the ability to easily move in and out of spaces to better understand the interaction between population level trends and individual agency and choice within Nicaragua.

The expression health landscape has been used by anthropologists (Citrin 2010; Fassin 2007; Janes and Corbett 2009), public health scholars (Hutchison and Glazier 2013), physicians (Johnson 2011), and even engineers (Lee et al. 2009) to vaguely reference the spaces in which healthcare decisions are played out. Some researchers are interested primarily in the spatial aspects of healthcare while others use the term landscape more broadly, to refer to the accumulation of social or economic factors within a geographic area. Though these uses of the term do convey an assembled nature of healthcare systems, as well as an inherent amount of variation within them, the term health landscapes has not been explicitly used to explore what ethnography can do in these settings.

12 Landscapes can be contested physically by human interaction with vegetation, water sources, etc. Socially and politically landscapes are often by contested by redrawing electoral or property boundaries and historically landscapes have been contested through different histories of ownership and occupation. Individuals can also contest landscapes in a wide variety of manners, such as creating safe spaces, or by restricting others from their space like the white supremacists trying to establish their own township in North Dakota (Pearce 2013).
The contribution of health landscapes to my work provided me a framework to understand the broadening, contextualizing, and complicating relationships between health and space. It is unlikely even the best ethnographer could account for and address all of the influences that contribute to creating a health landscape in a single work. However, there is room to at least take stock of those factors and to expand our views of the plane and terrain people navigate when interpreting and addressing health and illness. The plane of health became visible and palpable to me in a new way when I began to think of it as a landscape to be navigated and altered.

In my own work, I found that modern healthcare systems are worthy of being understood as multi-dimensional, dynamic spaces where “patterns of activities collapse into an array of features” (Ingold 1993:162). The value in understanding healthcare as a landscape (obviously acting within the context of others, e.g. social, political, physical, etc.) comes from the ability then to see health landscapes as forceful actors within and upon people and patients. A focus on landscapes also encouraged a focus on the material composition of particular places and how movements and mobility on and through those places differentially mark the bodies and subjectivities of those who do or do not access them.

**Vignette #2 Rosa**

Despite being in her late 40s, Mercedes’ oldest sister was still affectionately called Rosita by the family. She had frequent knee and hip pain that made her fairly immobile and also greatly distressed her family. Usually Rosa’s only option was to make do with the pain. However, every once in a while she was able to afford to go to the local clinic and pay a small fee for an injection to alleviate it. On one of the days her son was unable to go with her she asked me to accompany her and help watch Enrique her
young grandson. We arrived in moto-taxi, just after the meager afternoon meal, although if it had not been for Rosa’s extreme pain that day we would have walked the mile to the clinic. We entered the community clinic compound fenced in by a gate and with a large sign declaring the state’s efforts in the community. We went inside, passing dozens of people and families waiting outside in shade and seating that could only be described as inadequate for a dry Nicaraguan afternoon. Rosa spoke with the attendant at the desk, took a piece of paper and we began our wait.

After fifteen minutes Enrique, her grandson grew hot and irritable. She asked me to take him outside while she waited in the increasingly warm interior of the old cement building. Obliging, I took Enrique by the hand and led him out to the overgrown medical “garden” area of the clinic. In all reality it seemed to serve more as a relaxation space: a beautiful, if overgrown, patch of green in an otherwise frenetic area. Surprisingly there was only one other family that seemed to be taking advantage of the looping sidewalk and the luxurious shade provided by a cluster of trees. Enrique and I walked laps around the small area, the size of a backyard swimming pool, and he told me the names of the plants he knew each time we passed them. By the time we were done waiting for Rosa I had learned a new set of vocabulary and it was nearly time for dinner. Since she was feeling significantly better after the injection we ambled home on the unlit dirt roads as the sun began to set. Rosa was waving to the neighbors she knew and calling out when they asked, that she was better today thanks be to God and hopefully she would be tomorrow too.

The Narrative Power of Landscapes

Rosa’s story exemplifies the health landscape in urban poor areas of Nicaragua, but also the importance of ethnography in understanding the spaces within which
experiences take place. Her struggle to access care can be understood economically (the cost of visits), physically (too much pain to walk), spatially (the journey), environmentally (increasingly hot days), socially (family roles), and culturally (spiritual framing of health). These concrete examples of the myriad of factors impacting Rosa’s experience of illness, allow the breadth and interconnectedness of her health landscape to come into focus.

Ethnographic detail and the realities it can capture, subtly reveal the assemblages of health landscapes. The individual people seeking healthcare and attending to their wellbeing are foregrounded in larger landscapes as they traverse toward care. People’s stories enable us to focus on the material composition of particular places and how movements and mobility on and through places differentially affect those who do or do not access them. Individuals then help make up the landscape, they are independent and tangible beings in a physical, contextual, and relational space. Their narratives however, reveal their connectedness. Their stories are concrete and unique yet, they also contribute to shared memories, experiences, place-making, and knowledge.

Rosa’s story continues to exemplify these connections and this function of landscape construction when read in the larger historical and political contexts that created urban Ciudad Sandino. The unlit streets in Ciudad Sandino are directly related to the lack of urban planning or development in the area and the era in which it was established. This lack of planning is representative of the haste in which families were settled there, beginning in 1969 when Lake Managua flooded and displaced around two hundred people to the massive cotton fields outside the capital city (Hoge 1982).
Rosa’s story is also representative of the treatment of the disenfranchised during the Somozas’ 43-year reign[^13]. Ciudad Sandino has seen improvements, but, like most other growing urban areas in Nicaragua, not nearly quick enough to keep up the burgeoning area replete with new refugees after every natural disaster. The displaced are not easily absorbed into what is now the most densely populated city in the entire country (Alcades Municipales 2013). If new refugees are lucky they may find small places between homes in which to erect a roof and possibly some walls with whatever spare materials they can salvage. If the new residents are unable to find a more central location in Ciudad Sandino, they assemble their dwellings on the outskirts of town. When people stay long enough though they will be absorbed as new residents come in and build around them. Eventually the new become old as they are insulated on every side by other improvised shelters and they begin to constitute the center, surrounded by more easily accessible resources.

Through these narratives of health and illness we are able to see the landscape of health and the things shaping people’s access to and ideas about health expanding far beyond the current snapshot in time that they occupy and far beyond the places they work or live. In both stories it is easy to see that lives are permeated with the spiritual significance of Jesus Christ. He is part of the day-to-day (as illustrated by his ubiquitous material presence) and also the mediator of the miraculous. Many of the people I met in Nicaragua consult him first and last on issues of health. They know that the unexplainable must either be attributed to him or mitigated by him. For many, spirituality

[^13]: Although the Somozas were only in power openly for 30 of the 43 years, they maintained power through direct influence over the National Guard during the other thirteen years.
provides a sense of safety and protection and calms nerves in the city. Spiritual affiliations and allegiances have the power to influence relationships between patients and providers and also between neighbors.

Peoples’ spiritual beliefs shape health landscapes in Nicaragua in more visible ways too. Foreign missionaries (predominantly of the Christian faith) have been visiting the country and offering advice for spiritual and physical bodies since the early 16th century (Whisnant 1995:33). Today’s manifestations of colonial evangelism in Nicaragua are much more varied in nature, often shorter in duration, and frequently focused on physical health (Hershberger 2004). These missions are changing the types of care people have access to and in many ways expanding and convoluting their healthcare systems.

**Vignette #3 Liana**

The youngest of the many grandmothers in their 40s working at a cooperative in Nicaragua, Liana had been “building equity” there for over two years when she began to feel ill. She developed an array of symptoms over the course of three months that eventually led to a diagnosis of cervical cancer. The cooperative was legally established, but not financially solvent so the members had not been paid in the entire two years they had been constructing the factory, waiting for the maquinas to spin cotton. They also didn’t have any health insurance or even access to worker’s compensation should they be injured on the job. The members knew they were in

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14 It is important to note that short-term medical missions have emerged in tandem with a larger global trend of secular short-term medical outreach programs and that both short-term models are affecting health landscapes.
precarious positions awaiting production to begin and revenue to generate. Many of
them took the risk though, believing the reward of stable and fairly paid work in a place
they partly owned would be worth the wait.

Though the women waited, Liana’s symptoms did not. The hospital in Managua
diagnosed her and suggested she have surgery as soon as possible to remove her
growing tumor. On her non-existent salary both the public and private healthcare
options were too expensive for her and her family to afford. She went on visiting
different doctors when she was able, but all recommended the same unattainable thing,
and Liana’s condition continued to worsen. She told me all of this over lemonade and
pico, (sweetbread), at her house one day. She said she owed everything to Gema, one
of her coworkers that had heard about a non-profit woman’s group in Managua that
helps women access surgical care.

Gema accompanied her on the often painful bus rides to the city and was there
to support her as she worked with the NGO to find a way to have her tumor removed.
The pair of women took the hot, uncomfortable bus trip to Managua multiple times to
sort things out with the NGO and then eventually Gema was able to take Liana to the
hospital for treatment. They were fortunate that one of the women from the NGO gave
them enough money to call a cab for the post-operation ride home. Liana told me that
had she ridden the bus she was sure she would have opened up right then and there,
her swollen and stitched up belly spilling out onto the seats. Since then though she had
ridden the bus, uncomfortably, back to the city twice for check-ups with no real incident.
She said she owed her current health to Gema and the NGO and was certain she never
would have found them on her own.
A Framework for Health Landscapes

Here again the ethnographic excerpt illuminates parts of the Nicaraguan health landscape in very concrete ways. However, in order to avoid simply using the concept to evoke the imagery of individuals traversing through and around health landscapes, connecting them, I found a framework for thinking about the spaces of health landscapes and the elements they encompass. I focused on three dimensions of health landscapes: the geographic terrain, the context imbued upon that place, and the relationships between spaces. These are not necessarily categories with fixed lines drawn between them, but rather layers to a landscape that are useful to think about. These permeable dimensions allowed me to see the health landscapes that people and communities are situated within, as well as explore the breadth of health landscapes and understand how they are created, recognized, and contested by individuals.

The geographical terrain. I begin first with fleshing out the geographical terrain of health landscapes. Understanding the relationships between a community’s health and their physical geography, first necessitates an understanding that the physical terrain is subject to the forces of nature (which are admittedly influenced by human behavior, e.g. global warming, deforestation). Rivers can be overrun by heavy rainfall, flooding plains or valleys and making roads unusable. Earthquakes and mudslides can entirely reshape areas, making certain areas more or less able to access natural or manmade resources, such as fresh water, medicinal plants, or clinics. The physical location of health related services is vitally important to an area’s health landscape, as are the natural and manmade forces that influence and affect those locations.

The migration of people from other areas to the cotton fields that became Ciudad Sandino (originally named Open 3) is a clear example of the immense influence of
terrain on health. Matagalpa has had similar waves of new settlers after environmental disasters. Very often it is natural disasters, or changes in the physical landscapes of peoples’ previous homes that have forced migration in Nicaragua. Once relocated, there are still geographical hazards to contend with in a country prone to flooding and hurricanes. Topographical depressions within cities, for example are dangerous areas to live around, but often some of the only areas open for new settlers. The depressions are more prone to flooding during the rainy season, reproducing the likelihood for homes and subsequent families to be further displaced as they occupy increasingly vulnerable places.

Temperatures, wind patterns, erosion, and many more natural environmental factors all shape health landscapes. Some of these things have begun to be modified, as dams are created, hills are leveled, and valleys are filled in. The relationship between humans and their environment is symbiotic and well noted among geographers and anthropologists alike. Here I stress the specific implications of this relationship on health and the creation and navigation of health landscapes.

Once residents are situated in new urban areas, other dimensions of the terrain became increasingly important. New residents in urban Nicaragua are part of rapidly growing areas without many public resources and minimal urban planning. The combination of a new place with no local government or ordinances, no budget for basic needs like water piping or street lights, and no premeditated plan has resulted in a chaotic space with unequal and inept distribution of resources. The fact that some zonas have clinics and others do not, affects certain people’s ability to see a physician or nurse when they need to. The fact that some children have to travel further to schools
(often without shoes) means they are more at risk for acquiring worms or other parasites. Distance from services is a very real constraint in peoples’ health landscapes that is directly related to urban planning.

Whether these services are local clinics, churches transformed into short-term dentist offices by visiting students, state hospitals, corner pharmacies, nursing schools, water pumps, or streams where people fish, all of these places have a physical location. Their geographic coordinates seriously enable and constrain peoples’ access to them and their services or goods. Of course there are other constraints or opportunities mapped onto geographic locations such as individual mobility, vehicle possession, established bus routes, and natural barriers. However, I used the physical location of things and the maps they create, as the first consideration of health landscapes. It is frequently the location that determines peoples’ (generally limited) choices and the routes in which they obtain care. Liana’s ability to negotiate her health landscape by accessing bus fare and routes to visit an NGO that had set up an office in Managua was critical to her long-term health. Resources in neighboring cities and public transport are an invaluable part of her health landscape that are directly related to the spatial organization of urban areas in Nicaragua.

The physical terrain of a health landscape can have grave consequences for the people inhabiting it, however it can also be advantageous. There are certainly environments that foster the growth of local plants used for health, rivers that go through communities depositing silt on the banks to make enrich harvests, and physical landscapes well suited for the domestication of animals. The beneficial or constraining properties of physical environments could be infinitely elaborated upon. The important
thing to grasp however, is that even within the physical landscapes there are often
elements that can go unnoticed in their relationship to health and illness.

**Vignette #4 - Candida**

Knobby old knees – wide and swollen around the joints, and then caving inward
as the skin draws back toward the tibias – the pair of them look like two bobbing alien
heads, the large shadows of the other worldly eyes forming in the hollows caused by the
deteriorating calf muscles connecting spur ridden bones.

Candida is always bouncing her knees. The only time is she stops is to slap them
with her hands or slap a grandkid running by her. If she can’t reach the culprit she
throws her sandal. She has osteoarthritis, but in Nicaragua it has just been diagnosed
as a blanket form of arthritis, encompassing all patients with joint pain.

She doesn’t know that what she has is different from the rheumatoid arthritis that
many other Nicaraguans have, but she does know the treatment is the same. *Pastillas.*
Whenever you can afford them and as strong as they are selling them. It is how I have
come to show my affection for the 66 year old. Every week a new box of *pastillas* with
$20 USD hidden inside. She won’t accept money for the meals she carefully prepares
for me, but she will always accept a box of *ibuprofen* or sometimes something stronger
if I am able to make it to the grocery store.

I worry though. I worry about her liver and her kidneys processing so much
toxicity – not only from the box of pain pills each week, but from the cleaners she is
inhaling, the plastic she burns in the stove, all of the bleach in our water, the bi-weekly
pesticide trucks that drive by as she sits on the porch at night. I think about the long-
term effects of all these toxins as I nervously speak – “Here is your box *abuela*, but you
shouldn’t have too many – it’s hard on your organs. My mom – the nutritionist,
remember – she told me that. You’ve got to be careful with the medicines – one type of pain one day, another the next.”

She knows. There is no amount she can take to rid the pain. Her best bet is to hope for a slight dulling effect to sink in that will last her long enough to get up and do the cooking, washing, and disciplining. The relief is always too short-lived. The pain is what lasts; rattling around in her knees as they bob up and down.

Candida navigates the physical terrain in her city by rarely leaving the house. If she does, she requires one of her grandkids or children to lean on as she crosses the street to attend Tuesday evening church service. She survives the cold during the six month rainy season with more complaining and more medicine than usual. She also deals with near constant exposure to environmental toxins in her home and city. The geographical space she occupies shapes her interactions with health and illness in various meaningful ways.

**The Contextual**

I also explored the contextual dimensions of health landscapes in this research. It is a less tangible, but very real dimension affecting what people understand, do, and communicate about their health and wellbeing. Many anthropologists have been able to unpack parts the unique contexts within which health is sought or experienced (Biehl 2005; Gutmann 2007; Mattingly 2010). Similarly, I feel this project gave me the opportunity to understand a small sphere of healthcare experiences within the country, however, there is certainly always room for more research and new perspectives of the lived experiences and contextualization of health in Nicaragua. Participants shared that the meaning of a place’s history, the memories one has of it (either their own or the ones they carry for others), the symbols used on signs, or the skin color of the doctors,
all are things that are constantly read and rewritten by individuals in their own health landscapes.

In a predominantly Catholic nation (Burrell and Moodie 2012) it is likely that Protestants are read as “other” in certain spaces. There are a number of key differences in the way Protestants and Catholics practice and preach their beliefs, as well as general differences in the ways they establish relationships with God, Jesus, Mother Mary or Saints (e.g. confession, being “saved”, etc.). There are also other dynamics in Nicaragua that may impact how foreign health providers associated with churches may be interpreted. The Catholic Church has been a predominant and united social and spiritual force in Nicaragua for centuries. However, who and what the church has advocated for has changed drastically in the past century.

In the 1950s the Catholic Church was a staunch supporter of the reigning dictatorship, however in the 1960s and 1970s a grassroots movement emerged in the Catholic Church supporting the rights of the poor and marginalized. Catholics became heavy supporters of the FSLN resistant movement and liberation theology, however by the mid-1990s they had largely severed ties with the FSLN and were again supporting the political party favored by the nation’s middle class and elite (Méndez 2005). Although there are far less Protestants in the country, their numbers are growing and since the Catholic Church’s realignment with the middle and upper classes, many of the Protestant Churches have taken on the role of advocating for the poor. However since their capacity to organize among the many different denominations, they have not had much political success (Lubensky 1999).
The complex history of two Christian faiths has undoubtedly left Nicaraguans with various understandings of and relationships with each type of church. Personal and familial histories as well as political involvement and affiliations have likely shaped many Nicaraguans spiritual lives and practices. It has also likely influenced the context within which they interpret and interact with different churches.

When there are personal and political meanings ascribed to the people and places that are offering healthcare, (since many STMMs work at a “sister church” in the area), there are very real contextual implications for who may or may not feel welcome. I found this dimension of health landscapes to influence which community members consider themselves able to take advantage of various spiritually related healthcare opportunities.

**Vignette #5 - Gregory**

The sun was just beginning to rise over the city as I boarded the tightly packed plane in Managua to return home after my ten weeks of research. I shuffled by the passengers, turning side to side and squeezing my overstuffed backpack through the narrow aisles. I found my seat next to an older gentleman from Florida. He was dressed in a bright orange pocketed T-shirt with his church’s name screen-printed on it. There was a smattering of other orange shirted Baptists on the plane as well, it looked to be about fifteen of them in total. He introduced himself as Gregory, but told me to call him Greg. He was much more awake than I felt and I sat down next to him realizing our flight to Miami was sure to be a diary entry of his time in Nicaragua.

Greg told me about his church’s long-term relationship with the country and how their sister churches in Managua and Matagalpa invited volunteer groups twice a year. He had just spent the past ten days delivering dental care to “the poorest of the poor” in
the capital city. He told me that while he was happy to be offering services the people needed, what he was really happy to share was his commitment to Christ and the gifts that came with that. We had a pleasant exchange about questions of spiritual and bodily health. I followed up by asking him why he thought Nicaragua’s “poorest” didn’t have access to dental care in their country and what was the role of the volunteer services he and others like him were able to provide.

Greg’s eyes grew wide and excited as he launched into a long explanation of the state of Nicaragua’s healthcare system. “Nicaraguans can blame the Sandinistas,” he said. The group was a corrupt socialist party that violently seized power and wrecked the state. “Since then, they’ve all been suffering. I was telling them at the church, they gotta get rid of the Sandinistas. Everyone acts like the Somozas were the villains, but with them people at least had basic health services.” Sitting in disbelief I imagined him in the city that is guarded by a 59-foot monument of Augusto César Sandino’s silhouette telling “the poorest of the poor” they should wish back the notorious family of dictators into power if they wanted better access to healthcare.

As we landed I imagined being caught in a place where you or someone in your family badly needed dental work, but in order to get it you had to go to a church that was not your own and possibly not even aligned with some of your basic spiritual tenets. I then imagined what it must be like to be lectured by people from other countries about the disservice done to the disenfranchised by the revolution that was fought and won by many of the nation’s poorest citizens – a revolution that largely shifted power and
priorities in the favor of the poor\textsuperscript{15}. It was listening to Greg’s contempt for the national government, rather than engagement with larger global forces, that I began to feel some of the heaviness and the jaggedness that Nicaraguans must face in their encounters with foreign medical providers. And it was then that I began to think about the innumerable attitudes shaping health landscapes and affecting people’s experiences of and access to healthcare.

\textbf{Making Spaces}

It is this process of making spaces that can so easily change or influence the context associated with it (Raffles 2002). New memories or stories can replace some of the bad, perhaps if a friend had a good experience at a clinic where you did not, you may try it again. There are many different peoples and places in Latin America where mothers are scared to take their children to the hospitals because that is where “they go to die”. There are places where women have learned that the doctors will sterilize them if they are believed to be indigenous or too dark (BBC 2002). These histories of places, regimes, and discrimination map onto physical spaces and influence whether or not people feel able to use that space or service. Thus, a place may be right down the street, but it still may be entirely inaccessible. This was seen in Nicaragua, as many women from the poorer neighborhoods on the outskirts of town reported feeling unwelcome at the nicer NGOs.

\textsuperscript{15} Although the legitimacy of the Sandinista’s commitment to the poor and disenfranchised continues to be seriously questioned by many Nicaraguans, a significant portion of the population continue to support the party (Robles 2016).
Ritual also connects people to their health landscapes and imbues places with meaning (Liffman 2012). There may be certain places where water is blessed or where one must go to make offerings for health. There are also places of ritual importance that have been destroyed or defiled due to new construction or natural disaster. I understand health landscapes and the meanings they carry to be constantly subject to new modifications and interpretations. Understanding this allows me to think about how individual families or communities may read certain services or opportunities and how that affects their health access and realities. For example, a women’s clinic that offers a controversial type of family planning might keep entire groups of women from using the clinic either by their own accord or that of their spouses or families.

The contextual dimension of health landscapes also helps to explain the difficulties that tuberculosis clinics have had in Nicaragua (Macq et al. 2005). When it is known how a disease will progress (the time and money, the inability to do work, etc.) people may understand the prognosis but deny the diagnosis. Clinics known for helping people with taboo issues (such as vasectomies) or diseases (HIV/AIDS), may be avoided by community members who do not wish to be associated with such a place, even if they do need the services.

Shame has been associated with being the victim of various types of infectious diseases, sexually transmitted infections, and physical and sexual violence (Kelly 2008). There are also gendered social stigmas many places associated with having ill and underweight children. The fear of humiliation or dishonoring one’s family are powerful forces that at times keep people from seeking and receiving the emotional, psychological, or physical healthcare they, or someone in their family, may need (Castro
and Farmer 2005). The fear of being labeled or associated with shame is yet another way the context of certain illnesses, physical relationships, spaces, and histories can greatly influence the ability and desire of people to maintain their health or treat their illnesses within their health landscapes.

**The Relational.** The relationships that places, spaces, ideologies, and actors make with each other comprise the final dimension of health landscapes and I conceive them. These could be relationships that ease transactions of treatment or knowledge, creating smoother pathways for those navigating the situation. Similarly, they could be relationships that exacerbate an already difficult journey. Greg’s conflicting ideas about the political history and system in Nicaragua could be seen as one of the relational aspects of health landscapes that causes tension and potentially affects care. There are also likely loyalties or alliances within spiritual communities that favor certain denominations over other, just as there may be relationships between sister universities or family physicians or local politicians that affect the health landscapes people live and operate within.

The critical analyses of relationships between and to spaces is reminiscent of bell hook’s layout of her community; she could tell where she belonged and felt safe by venturing into those spaces where she was not comfortable or welcomed (1992). These relationships help define the other spaces in our lives. Identifying danger or risk can also mark safety. This ideas shaped my understanding of health landscapes by introducing a dimension that is continually adjusting for comparisons. In Nicaragua’s fluctuating healthcare system, such evaluations are frequent.
Vignette # 6 - Marixa

She sat quietly; her worn and scarred hands curled up and folded tightly together on her lap. I could see a small gold band she wore, but it wasn’t on her ring finger. Marixa was a single mother and at 48 had recently had what she hoped would be her last child. Her skirt had been put back together a number of times and had it been newer, it would have been the sky blue that women called celeste. Though she tried to contain the nerves she had about her impending medical procedure inside the two hands that had now begun to faintly wring each other, they were still written all over her face.

She was startled when I approached and asked her in Spanish if we could finish her admission paperwork. Though a few of the other foreigners around were speaking in short bursts of broken Spanish, it was usually just to give a few directional orders – “Stand, Stay, Turn.”

“Waswala? Wow! It appears you have had a long day of traveling Doña Blandon.” Her eyes shifted from their work boring into the door patients kept disappearing behind, to my eyes, fluttered briefly back to the door as a patient emerged, and then settled on the paper and pen I held. She had some varicose veins that had been causing painful ulcers for years, but she hadn’t been a strong candidate for the surgery until she was done having kids. Her last was four years ago and she had gotten the clinic’s recommendation to attend the vein brigade this year. Marixa had woken up before the sun, in the madrugada, she told me. Her sister came over to watch the kids and Marixa walked and caught buses alternatingly for nearly three hours to arrive by eight a.m.
It was now nearly 11 a.m., but to get the operation, and get it for free, it wasn’t a bad wait she told me. The only hard thing was the kids, but “Gracias a Dios,” her sister lived nearby and had agreed to watch them.

Several brigades visited throughout the year, but this one was the largest. It was a combination of doctors from Italy and Arizona with Nicaraguan nurses and volunteers mixed into the groups. Marixa’s name was called out in an Italian accent and as she stood I followed her into the large room loosely divided into five different treatment areas by a few strategically hung sheets. She followed the voice to a large man sitting in a chair next to a wooden stepping stool. He motioned for her to get on the stool and remove her skirt. Underneath she had some flimsy one-size-fits-all disposable shorts that would allow the doctors a better view of her legs. They had to lift the shorts up, making her underwear visible, she blushed as she saw the orange cotton reflecting in the mirror across the large room. The doctor drew on her legs in thick black marker – giving himself notes for when she was on the table.

As she was ushered over to the table by a volunteering Nicaraguan woman who usually worked as a landlord, Marixa looked back over her shoulder toward me - or perhaps just the door. As the procedure started the doctor noticed something interesting, he had found a teaching moment for the others. He waved them over, 12 of them crowding around the long-corded laser and bright overhead light pulled down just a few feet away from an immobile Marixa. Two at a time they took turns peering over the doctor’s shoulder, following his pointed latex covered finger and the moving overhead light. The doctor was showing his colleagues how he had been able to close three different veins with only one insertion of the laser; a technique that was able to
save time and supplies. After a few minutes of discussing the oddly placed and long-ago eroded vein they burst into laughter, one of them making a joke about Dr. Vitalli always finds the “exciting ones.”

I saw Marixa’s head pop up off the table the as the laughter surrounded her, but they pat her shoulder telling her to stay still a few moments longer. The joke, the crowding, the motioning to her body – these were the parts of this free operation she had no control over. She didn’t ask what they were talking about, or for one of the Nicaraguans to translate for her. She just stayed on the table, lying her head back down as they had said, unsure whether there was something seriously wrong, whether she should be alarmed, or whether perhaps they were just laughing at how dark and protruding her veins had become over the years.

**Relationships**

These relationships are illustrated here too, in the make shift operating room of an STMM working with an NGO in Matagalpa. These relationships create context and map onto physical terrains in very real ways. They have material manifestations as well. Marixa’s experience illustrates the spaces where patients can become objects, and language is a luxury.

Relationships between churches in the United States and churches in Nicaragua often result in not only more people and political beliefs filtering into the health landscapes, but also supplies. The digestive diagram that was labeled in English instead of Spanish is another example. Medicines, supplements, and instruments are others. Donor models of health provision and development have also significantly contributed to my understanding of health landscapes in Nicaragua. When the vast majority of foreign medical aid entering a country subscribes to a biomedical model of
health it is easy to understand the declining visibility of local or indigenous healing practices and the increased dependence on imported drugs and procedures\(^\text{16}\) (Stocker et al. 1999).

**Conclusion**

Exploring the oft-used and rarely explained term, health landscapes allowed me to process ideas about the origin, construction, and production of landscapes through a critical medical anthropology framework rooted in ethnographic research. These landscapes allowed me to access a broad and richly informed understanding of all of the interwoven and evolving factors affecting peoples’ experiences and understandings of health. It is impossible to completely account for everything that shapes peoples’ health landscapes (as I have envisioned them) and subsequent experiences of health and illness. This framework however, grounds my understandings of health and space and also challenges me to explore the shifting layers of landscapes mapped onto peoples’ realities.

This concept further creates opportunities to build a sensitivity to the places and spaces in which health unfolds. It is not that anthropologists do not already learn to adopt and engage these sensitivities, often by trade, but that in practice it is easy to forget to pay attention to the interactions, expectations, and symbiotic experiences of humans, space, and health. Experiences of health and illness are influenced by a myriad of moving pieces. There is an opportunity within our discipline and others to

\(^\text{16}\) This is not to say that Nicaragua does not have access to the same drugs and procedures without foreign assistance and aid, but rather to highlight the role that importing those medicines, technologies, and training has on the health landscapes.
understand the people we work with and their health landscapes as more than just the fluorescently lit hallways of hospitals or dirt floors of clinics.

As an anthropologist, I have the tools to think broadly about health and the health landscapes people are produced by and reproduce themselves as they navigate them. This allows me to grasp the great significance of the geographic, the contextual, and the relational dimensions of health landscapes. This framework for understanding those realities also allowed me to identify ways in which I can work for more equitable landscapes on all accounts.

Narratives from Nicaragua’s healthcare system provided me a starting point to create a framework for the concept of health landscapes, and ethnographic evidence illuminated connections and constructions of meaning. For me, health landscapes have begun to illustrate the new iterations of neoliberal governance, environmental trends, and biomedical developments emerging throughout the global south by combining anthropological ideas of landscape with lived experiences of patients and communities. Without ethnography, representations of the health landscape in urban Nicaragua would lack the details that adequately communicate the lived realities of Nicaraguans. Outsiders, whether tourists, short-term medical missions, or policy makers living in the capital, would not be able to understand the importance of plastic chairs in waiting rooms, of shaded areas in outdoor spaces, local and national politics, or the necessity for greater publicity of alternative health opportunities.

Investing in a research method that privileges becoming as ‘immanent’ as possible to the circumstances studied, sets the concept of health landscapes apart from other abstract metaphors. It is through the experience-close research of ethnography
that the researcher is able to both discover and convey the health landscape. It is necessary to not only be in a place, but also to be caught up in that place to understand the singular, unique events that unfold within those landscapes and their engagement with the historicity and everyday engagements that shape it.

This is not a concept or a call for research that lends itself to being replicable or easily distillable into numbers or program recommendations. However, I found that conceptualizing and describing health landscapes helped me prioritize the heterogeneity within healthcare systems and experiences, as well as the differences among the faces and bodies navigating those systems and living those experiences. Gleaning the meanings and implications of observed and experienced health landscapes has not been easy, but it has revealed relationships, infrastructures, and material and affective facets of healthcare, offering direction based in lived realities for improving healthcare systems, services, and experiences.
CHAPTER 5
LONG-TERM CONSEQUENCES OF SHORT-TERM AID: SHORT-TERM MEDICAL MISSIONS IN URBAN NICARAGUA

Short-term medical missions (STMMs) are a growing subsector of global health services. STMMs usually originate in the global north and travel to the global south\textsuperscript{1} providing healthcare services to economically and geographically marginalized populations\textsuperscript{2}. STMMs are typically organized by churches, universities, professional healthcare providers, or groups that are interested in volunteering while they vacation, “voluntourists” as they have come to be known (Fogarty 2009:83; Holtz 2009:111-113; McKinnon 2009:23). Short-term signifies less than one month of service provision, with some medical outreaches lasting less than a full day. The groups can range from between 1 to 60 providers and at times are even greater in number due to other non-medical volunteers (Berry 2014). STMMs have been described as groups located at the intersection of the increasing awareness of global suffering and the individual and humanitarian desire to ‘do good’ (Citrin 2010; Richter and Norman 2010). Despite differences among STMMs there is a common larger narrative emerging within them about individuals combatting systemic inequalities in an era of growing disparities.

Although there is no recent estimate of the total number of annual STMM trips, previous studies on STMMs and current statistics about their prospective volunteers

\begin{itemize}
  \item While the terms global north and global south are used to differentiate between populations either benefitting from or being exploited by global Western-influenced capitalist systems, it also recognizes the heterogeneity within groups and the artificial boundaries of “north” and “south.” National boundaries do not bind all winners or losers in a global capital system. Chandra Mohanty and other feminist scholars from the global south have written extensively about the limitations of the concept, but also express their usefulness in exploring global and local inequalities (2006).
  \item There are however STMMs that operate within their own countries as well, both in the global north and the global south.
\end{itemize}
would suggest that the number of annual STMM participants and trips are increasing. Data from the American Medical Association’s 2015 Graduation Survey indicates that the percentage of pre-med and medical students participating in international medical missions is on the rise. The survey found that 31.2% of all graduating students had participated in a “global health experience” (AAMC 2015). This number is up from just 6% in 1984, and 29% in 2014 showing significant and steady growth in student interest and participation in STMMs (AAMC 1984; AAMC 2015). The last well informed estimate of the total number of STMMs was from a team of researchers in 2008 (Maki et al.). They estimated the annual number of STMM trips was around 6,000 just from the United States. Given the current uptick among medical students participating in global health outreaches, along with other factors such as more affordable travel prices (Mainil et al. 2011), and the growing number of international non-profits coordinating trips (Berry 2014), it is widely believed that the number of STMMs continues to increase annually (Martiniuk et al. 2012). As players in global health whose numbers and resources are on the rise, STMMs are an important area for study.

The presence of STMMs in the global south adds new dimensions to existing questions about how development agendas can weaken the state (Escobar 2011), supplement neoliberal reforms (Petras et al. 2013), and reproduce existing hierarchies and inequalities (Schuller 2012). Despite the fact that STMMs are another offshoot of global development agendas, they are frequently overlooked or unmentioned in existing

3 Though not all “global health experiences” would necessarily be categorized as STMMs, it is likely given medical students schedules, that the majority of students are indeed taking part in short-term outreaches that would classify as STMMs.
literature and studies of global health systems⁴. While short-term health interventions clearly do not operate with the same level of permanence as most foreign donors and international actors in global health, they offer a unique look at the “global healthcare chains” (Nichter 2008). STMMs are actors that are predominantly focused on providing care to “those who have little or no access to healthcare” (http://www.globalmissionpartners.org/) and populations designated as, “poor and needy” (http://cmda.org/missions/detail/global-health-outreach). The growing number of these medical initiatives ask questions about whether their growing presence could help improve global healthcare access and quality.

Despite the questions that STMMs provoke, the increasingly diverse origins and destinations of STMMs, as well as the lack of an informational database or international regulatory agency for them, make it difficult to determine the breadth and depth of STMM work. It is estimated that U.S.-based STMMs represent over $250 million dollars USD in health and travel expenditures each year (Maki et al. 2008). While this does not compare to the billion dollar industry of global health NGOs, IGOs, and bilateral aid, STMMs still represent a sum of funds with the potential for more lasting impacts in healthcare delivery and infrastructure.

The medical services, organizational structure, and overall effects of STMMs, have been far less scrutinized by scholars and development professionals. Comparatively, NGOs, IGOs, and bilateral aid receive considerable political, economic, and academic consideration as global providers of healthcare (Edwards & Hulme 1996; For instance, comprehensive studies of global healthcare systems and health and development initiatives such as Hahn and Inhorn 2009 and Farmer et al. 2013, fail to mention the role of STMMs.)
Foster 1977; McCoy et al. 2009). The disparities in scholarship are likely influenced by the significant difference in economic contributions between STMMs and longer-term projects, the varied histories of involvement in global health, and perhaps even the itinerant and transitory nature of STMMs. As other scholars have found, STMMs are an exceptionally difficult domain of global development and health provision to study (Green et al. 2009).

Despite the inherent difficulty of studying STMMs, the body of research on them is growing in both anthropology and public health. Recent publications testify to the growing number of STMMs, and thus the numbers of patients they treat (Chiu et al. 2012; Maki et al. 2008). Broad themes found in STMM literature include concerns about the ethical issues associated with STMMs (Montgomery 1993), their sustainability (Suchdev et al. 2007), and the lack of evaluation measures to regulate them (DeCamp 2011). These scholars are asking important questions that certainly impact the way STMMs could and should function within healthcare networks of the poor and marginalized. There has not been however, a study analyzing the integration of STMMs into current healthcare systems or the effects of STMMs on the structure of existing systems. This study fills a gap by analyzing the use of STMMs within the context of a larger healthcare system in Matagalpa, Nicaragua.

This study provides detailed ethnographic research describing how communities understand and access STMMs within constantly fluctuating healthcare systems. Although there has been a significant amount published about physicians’ and volunteers’ first-hand accounts of STMM work (Bajkieicz 2009; Hershberger 2004; Peterson 2012), there has been less research that purposefully prioritizes the voices of
those people who live and work in the countries where STMMs frequently work (Berry 2014; Citrin 2010; Green et al. 2009). This research seeks to share subaltern citizens’ ideas and concerns about STMMs in the global south as a way to diversify and enrich the ongoing dialogue about STMMs in development, medical anthropology, and public and global health scholarship. Because this study locates STMMs within existing healthcare systems, it is also able to supply a more comprehensive assessment of current health systems in urban poor areas. Additionally, it contributes to current development debates by illuminating the informal dimensions of how STMMs collaborate and integrate with a larger healthcare and development system.

Nicaragua’s Healthcare System

Nicaragua is a case study of the myriad of interwoven forces and processes that are shaping healthcare systems in the global south. Its own unique history informs the relationships between citizens and the healthcare services and providers populating the fluctuating healthcare system. Multiple wars and great suffering and loss characterize the last few decades of the 20th century for many Nicaraguans. The country’s recent past continues to impact its public healthcare system, as well as its citizens’ expectations and frustrations.

After the country’s revolution in July 1979, the new ruling political party, the Frente Sandinista Liberación Nacional (FSLN), began to focus on improving public access to healthcare by increasing government spending on services and infrastructure (Bossert 1984). However, within two years of the FSLN’s 1979 victory over the Somoza dictatorship, the CIA started arming the supporters of the recently defeated dictatorship and funding another war in Nicaragua. It is estimated that 61 healthcare facilities were targeted and destroyed during the Contra War (1980-1988), with another 37 closed for
an extended amount of time (Donahue 1986). The FSLN government was forced to reduce their national expenditures on all social services, including healthcare, as the Contra War continued to absorb larger portions of the national budget (Whisnant 1995).

The Contra War ended with the 1990 democratic election of Violeta Chamorro. The Contras were free from Sandinista rule, and the U.S. was no longer as worried about the soviet-backed Central American state, with a president they supported now in power. Although structural adjustment policies (SAPs) had begun under Sandinista rule, they increased in number and expanded in scope under the Chamorro’s presidency (Babb 2001; Castro et al. 2010). The policies focused on decreasing state investments in social services such as public health and urban infrastructure, in order to reduce national debt and increase foreign investment5.

The lasting memory and effects of the country’s popular revolution and the subsequent CIA-funded Contra War, are bound up with the remnants of geopolitical agendas and resulting international allegiances from the Cold War. Along with the sustained damage to the healthcare infrastructure and decades of decreased health spending (lasting until the Sandinista’s returned to power in 2007), Nicaragua simultaneously experienced sustained support from its international allies.

Cuba, for example, has sent thousands of physicians for both short- and long-term missions to Nicaragua (Prevost 1990) and continues this tradition (despite minor interruptions during different presidencies) (Beam 2007; Miami Herald 1998). In addition, relationships developed during the Cold War have produced trade

5 For a more in-depth discussion of SAPs and their role in Nicaragua, see Chapter One.
agreements. Although Russia has had a long history of donating aid to Nicaragua, often in the form of buses and technical support for Nicaragua’s public transport sector (Rogers 2010), the Russians have recently expanded their interest into the Nicaraguan healthcare system. The two countries made a pharmaceutical trade agreement in 2015, that will likely impact the types of medicines Nicaragua imports and stocks; however, it is still unclear as to whether this agreement will expand or limit the types and quantities of medicines available (LatinNews 2015).

In addition to sustained support and interest from Cuba and Russia, Nicaragua also received a significant amount of international aid, dating back to the revolution\(^6\) (Donahue 1989; Fogarty 2008). Although Nicaragua’s wars are over, the country continues to attract many health related NGOs, bilateral aid funding, and more recently – a large number of STMMs. The country’s well-known status as the, “Second Poorest Country in the Western Hemisphere” (Saunders et al. 2013) coupled with its more recent ranking as the “Safest Country in Central America” (Sood 2012) has likely contributed to the growing number of foreign travelers and volunteers.

A series of interviews conducted in 2011, revealed that many different Christian STMM participants felt specifically “called” to Nicaragua because they had heard about the immense “need and poverty” there (Casler 2012). In the current economic climate, Nicaragua is also often more affordable to visit than many of its Central and South American counterparts, due to its proximity to Northern volunteers and its favorable exchange rate (Frommer’s 2015).

\(^6\) However, the revolutionary war also caused Nicaragua to suffer grave economic sanctions as well, especially under the Reagan administration.
In addition to the international aid and activity, nationally, there has been renewed focus on the public health sector and infrastructure since the 2007 re-election of Sandinista president Daniel Ortega (McCurdy 2011). Since the return to power of the Sandinista government, both poverty and extreme poverty have been reduced. There has also been a steady increase in the percentage of GDP spent on public healthcare services and infrastructure (The World Bank 2016). Publically, Nicaragua prioritizes primary care access for all and has continued to work towards providing universal coverage for all citizens with programs designed to help some of the more at risk populations (Castro et al. 2010). A few examples include the Ministry of Health’s renewed investments in prenatal care for women, malnutrition prevention for children, and more active vaccination campaigns throughout the country (Muiser et al. 2011; Sequiera et al. 2011).

Despite a renewed focus on healthcare provision and accessibility by the democratic socialist party, inaccessibility continues to plague the Nicaraguan healthcare system (WHO 2015). Living a year among Nicaraguans allowed me to begin to understand the many circumstances under which primary care, specialty care, and medicines can all become inaccessible. As it often is with questions of access, the greatest rates of inaccessibility seem to plague the most marginalized populations.

The Nicaraguan Ministry of Health (MINSA) supervises 2,224 public healthcare facilities, 1,160 of which are centers that primarily provide primary care (PAHO 2012\(^7\)).

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\(^7\) This report is the most recent one available since MINSA has taken down their Annual Health Statistics Reports from their webpage (http://www.minsa.gob.ni/index.php/repository/Descargas-MINSA/Divisi%C3%B3n-General-Planificaci%C3%B3n-y-Desarrollo/Estad%C3%ADstica-de-Salud/repository).
Those facilities range in size and capability, however, health centers (which often treat hundreds of patients a day) are included in that number, as are casa bases\(^8\) (which often treat between one to ten patients a week). Thus, the task of measuring how many opportunities Nicaraguans actually have within this system is difficult, despite the growing number of reported healthcare provision sites.

Many Nicaraguans still experience difficulty accessing primary care. Reports have found that between 6-8% of Nicaraguans lack access to any public health services (Muiser et al. 2011). This statistic however, does not account for citizens who are considered in range of services, and who still struggle to get appropriate care or even make it to the sites of provision.

For example, casa bases and the community health volunteers who operate them, are often not functioning as MINSA describes them. In Matagalpa, the casas are far from being “pillars” of the Nicaraguan healthcare system (MINSA 2015). The casas are described by the ministry of health as vital parts of the country’s 2007 Family and Community Health Model (Saenz et al. 2011). In practice however, it seems that casa bases play a different, much less visible role. The large majority of Nicaraguans I spoke with had never heard of them, let alone visited a casa base. This suggests that the large number of healthcare facilities claimed by MINSA may be greatly inflated by a resource that is largely unused and unknown by the general population.

\(^8\) Casa bases are neighborhood houses where a trained community health volunteer lives. These spaces primarily promote self-care and prevention. They were included in the social network analysis and were three identified in the city of Matagalpa. However, there are likely many more in town that went unreported.
Casa bases do exist in Matagalpa. Three were located during the course of the study; but volunteers running the casas reported that they were rarely visited and services were even less frequently rendered. When community members did visit a casa base, it was very often the case that all a volunteer could do was provide a referral to the health center or a nearby pharmacy. Thus, MINSA’s marketed frontline of primary care, was an unknown resource to many Nicaraguans, and often an unreliable one to those that did include casa bases in their healthcare networks.

Casa bases were not the only aspect of primary care that Nicaraguans reported having trouble accessing. Many people were unable to attend the larger public health clinics or centers because they could either not leave their homes (for fear of burglary) or their jobs (for fear of termination). Still others reported having too many children or immobile family members (due to injury or illness) to leave the house. The only public service that admitted patients after normal working hours, was the Regional Hospital, which would not treat primary healthcare concerns.

The options were thus understood by many as either missing a morning or afternoon of work (since visits were reported as lasting between 2-4 hours) or paying to go to a private clinic. This conundrum quite obviously disproportionately disadvantages those that are already the most financially vulnerable. Despite the renewed focus and gradual improvements in primary care delivery, basic healthcare services are still inaccessible or difficult to access for many Nicaraguans.

Of the 2,224 public health facilities in Nicaragua, 64 are hospitals. Hospitals are most generally where specialty attention is given, such as: surgeries, post-operation follow-ups, and appointments with specialists. Seeing a specialist usually requires one,
if not multiple, visits to a primary care physician (for a recommendation), followed by a 2-4 month waiting period for an appointment. Thus, accessing specialty services is often not easily or immediately possible, unless a person is able to pay for private care. For those citizens who are able to afford private care, their medical attention is typically immediate. Minor surgeries can be arranged the same day, and major ones are typically scheduled within the week.

Although money can often help Nicaraguans access care more quickly, there are types of specialist care are simply unavailable in Nicaragua at any price. Trips to Costa Rica or the United States are often the only ways to access the specialized healthcare services many Nicaraguans need or want. The need travel out of country further divides the population in terms of access to care, as only the very financially elite consider international travel. Although some of the availability issues are related to the medical equipment available, the rest are attributable to the limited availability of trained professionals in certain specialties (such as vascular or orthopedic surgery).

The most common complaint of access however, is not about primary or specialty care, but rather the inaccessibility of necessary medicines. This is a problem that again, disproportionality affects populations who are already struggling the most to access care. In general, they are the poor, the rural, and the indigenous (PATH 2008). It is frequently the case that the public health centers and hospitals do not have the medicines stocked that patients are prescribed. Thus, a consult is free, but the treatment is not. The clinics for insured patients face similar shortages and stocking issues.
Both public and insured clinics in theory, are supposed to supply patients with their prescribed medicines at no cost. According to patients, this is rarely the case. It is common knowledge that the only type of medicine the health facilities routinely have in stock for patients is acetaminophen – and at times even that runs out. “Solo acetaminofén” (only acetaminophen) and “Siempre acetaminofén” (always acetaminophen) are often patients’ ways of expressing their exasperation with the lack of options at public and insured health facilities. When the public or insured health centers are out of the medicines patients are prescribed, the financial burden fall on the patients, who are expected to take their written prescriptions to local pharmacies and purchase necessary medications. This is costly and very often cost-prohibitive – resulting in patients who are regularly unable to access much needed medicines for both chronic and acute conditions.

Another result of the inaccessibility of affordable medicines, is the misuse of medications. For example, pills are sold individually, so many Nicaraguans buy and take a partial course of antibiotics when they cannot afford a full course. Other times they may choose only to buy the most affordable of the four medications prescribed by their doctor. This type of behavior has been documented in many resource-poor communities and found to have not only grave effects on patients, but also longer-term effects for global population health, such as increased bacterial resistance to antibiotics (Biehl and Petryna 2013; Wolff 1993). Despite recent attention and improvements, the Nicaraguan healthcare system still remains unable to reliably provide basic care, specialty care, or prescription medicines to many of its patrons.
Mixed Research Methods

The dissertation in full, seeks to understand how patients use STMMs in their larger healthcare networks. Secondary goals include understanding how patients comprehend and interact with STMMs, what role STMMs are playing in global health and development agendas, and whether STMMs occupy structurally equivalent roles in urban poor healthcare systems.

In order to collect the necessary data regarding how STMMs are used and organized, the study employed the following: 1) participant observation and ethnography, 2) a systematic analysis of semi-structured interviews, and 3) social network analyses. This paper primarily addresses the qualitative data collected and questions about patients’ use of, interaction with, and attitudes toward STMMs.

The study’s ethnographic research component included participant observation, free-listing exercises, household visits, and semi-structured interviews. There were three different targeted research groups: Nicaraguan residents, STMMs, and health and development professionals. Table 5-1 indicates the groups that participated in each phase of the research, the timeline, and the number of interviews.

Ethnographic data was collected over the course of thirteen months in Nicaragua. The majority of the fieldwork was conducted in Matagalpa, Nicaragua, but nearly three months were spent interviewing public health professionals (primarily in Managua) and shadowing STMMs in other parts of the country. Research was specifically focused on care in urban areas.

9 This included NGO employees, STMM coordinators, and medical and public health professionals.
Participant observation is a rigorous method that requires great attention to detail; researchers immerse themselves long-term in a particular community or area to study the social and cultural context. Throughout the research period the investigator participates in everyday life – observing interactions, relationships, and conversations that denote the significant “practices, political economic forces and cultural concepts” specific to the area and the research question (Holmes 2006). For this project, the researcher spent time in various types of healthcare settings (public, private, alternative etc.), observed healthcare service delivery, and listened to Nicaraguan’s stories of past healthcare encounters and future health concerns. This provided the researcher a better understanding of Nicaraguans’ attitudes toward the healthcare system and their experiences of health and illness.

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10 Although there were 16 total STMMs in Matagalpa during the study period, this number reflects the total number of STMMs I observed within both Matagalpa and other areas of Nicaragua.
In addition to rigorous participant observation, the study also included free-listing exercises to locate local and foreign healthcare providers and semi-structured interviews with Nicaraguan residents and health and development professionals. The free-listing exercise helped define the domain of healthcare providers in the community. The responses were used to verify the list of 124 healthcare providers\textsuperscript{11} and also as a starting point for understanding how Nicaraguans grouped healthcare providers into categories such as public, private, alternative, etc. The categorization of healthcare opportunities were also discussed and explored with the participants who were routinely interviewed during household visits.

Household visits were scheduled with 22 individuals from households interested in taking part in the research and representative of variability within the community. The number of residents, proximity to the town center (and thus the bulk of healthcare providers), and income level were taken into account when selecting a representative group of households. Although there were both cancellations and re-scheduling of visits, each house was visited an average of 4.5 times and usually within two to three weeks of the previous visit. During household visits the researcher asked if anyone in the household (who consented to sharing their information) sought care that week. If care was sought, information regarding where they went, what type of treatment they sought, what kind of treatment they received, and if they were referred anywhere else was recorded. Each week the researcher also asked if household members had seen or heard of any recent STMMs in Matagalpa. This gave respondents multiple chances to

\textsuperscript{11} This comprehensive list of healthcare providers in Matagalpa was collected with the help of two research assistants.
share feelings about or experiences with STMMs. Often the discussion turned to the accessibility of the short-term care. Asking about STMMs each household visit was also a way to continue collecting information about more recent additions to Matagalpa’s healthcare system, after the free-listing exercise was completed.

**STMMs in Nicaragua**

As mentioned, there is great variety among the STMMs working globally. That variety is evident among the 12 different STMMs this study directly observed and the 9 others it collected information on. The most obvious distinction between types of STMMs is typically their affiliation; generally this is a church, university, group of professionals, or NGO-organized group, although at times group memberships overlap. For example, there are NGOs that specialize in organizing STMMs for university students and medical professionals. These organizations often charge substantial participation fees that cover expenses such as lodging and food, but also generate income for the NGOs. There are also NGOs that will facilitate a group’s work once they arrive, but based on a personal relationship between the STMM and the NGO and not something a group can sign-up for online.

This study found sixteen STMMs in Matagalpa, Nicaragua over the course of twelve months. It also observed five additional STMMs providing care in other urban and rural areas of Nicaragua. Some of the STMMs only provided service for one day, others provided service for up to five days. Six STMMs provided specialty care at existing NGO clinics, and one worked at the regional hospital. Nine conducted primary
care clinics at local churches, schools or public areas\textsuperscript{12}. Fourteen of the total twenty-one short-term medical teams stayed in one place and administered care, while six traveled to multiple sites. The specialists were more likely to stay in one place and provide service, with only one group of specialists visiting multiple sites, a group of audiologists that had little specialty equipment, other than hearing aids, which were easy to travel with. Eighteen of the twenty-one STMMs were composed of foreign volunteers, although all of them had Nicaraguan translators, physicians, and or coordinators with them.

Working with STMMs was a lucrative job for Nicaraguans that were fluent enough in English to meet the qualifications. Jessica, one of the medical translators for the UCLA student group explained to me on a long bus ride home after clinics,

\textit{This work – it pays much better than my normal job. I took a week off to do this, but I am earning in this week, what I do in a month. And what’s more, it is fun! I love working with the students – they make me laugh. Plus, we get to travel!}

Jessica’s normal workday is eight to nine hours in a building with “not enough windows” in Managua. Nicaraguan physicians were also typically paid relatively well to travel and work with volunteer groups. There is often financial motivation for Nicaraguans to work with STMMs, but it is certainly not always the case. Appropriate wages for Nicaraguan translators has been hotly debated on multiple occasions among the large group of expatriates associated with NGOs and development work in Nicaragua. With some frequency STMM coordinators would email the listserv asking for

\textsuperscript{12} One primary care clinic was at the downtown police station, while technically a public place, only the prisoners were treated, thus the patients were pre-selected.
recommendations for translators willing to work well below the expected daily rate of $20 USD. The coordinators would argue that the less translators were paid the more the group could spend on medical supplies and treatment. In response, there were many outspoken and self-identified “champions” of the Nicaraguan labor force that felt the average pay for translators was not only too low, but exploitative.

Differences in affiliation sometimes affected the extent of STMMs interaction with local patients outside of the clinic. For example, in this study church-related STMMs were more likely to organize or sponsor a community event at the end of their trip in an effort to further engage community members. Two of the four church affiliated groups I observed did either invite community members to a church service, piñata celebration, or both. Other STMM groups did not extend their relationships with the communities or patients they served.

The majority of STMM groups did take photos with the families, especially the children, and bring candies or stickers to give out, but rarely did they hold an event in which the community was invited to spend time with the providers as people, not simply patients. Of course it is difficult to fully measure the benefit or detriment of the extra spaces for engagement created by church affiliated STMMs. It is possible the spiritual expectations that often accompanied such events were not seen as supportive or transforming events, but rather another hoop to jump through to receive something or endear oneself to the providers. In fact, the additional community events could reinforce the roles of donors and recipients for non-spiritual attendees, instead of dispelling them.

There were other obvious differences between the differently associated STMMs, such as the size of the diagnosing groups and the medical qualifications of the
participants. When the groups were primarily students or volunteers with limited or no medical experience, groups tended to be larger. Groups were often observed with one provider, one translator, four students, and one patient. As a result, STMM patients are often in situations where they are outnumbered by STMM participants, as much as 6:1. Many patients reported that this was an overwhelming experience since usually only one of the six participants spoke Spanish.

I observed one woman, Esmelda, who was visiting a student affiliated medical team with her two children, aged four and six. The kids both had fevers for two days and diminished appetites. She could not even get them to finish one tortilla, she worriedly told the translator. Esmelda’s eyes were large as she watched the group of four students each take their turn guessing what questions they should ask her next. Each student submitted a question to the examining physician. The physician then patiently worked through each question with the group, explaining why they were or were not merited in the case of Esmelda’s children. None of the five English speakers, nor the translator said a word to the anxious mother during this process. She sat as if suddenly invisible. The face across the circle that was so deeply etched with worry was only a part of this “educational experience” when she was spoken to. Esmelda had one hand around each of her boys’ wrists, as her eyes darted back and forth between the group of people she assumed to be physicians, trying to catch a cognate here or there that would help her decipher what might be wrong. Eventually, the best course of questioning was decided upon and the translated diagnosis and treatment of her sons proceeded.

Despite the overwhelming nature of the large, primarily English-speaking groups, some patients mentioned they did enjoy the attention they received from students who
were eager to practice taking their pulse or listening to their hearts and lungs. Time after time, Nicaraguan residents brought up the importance of “touching” during medical visits. It was one of the most common complaints reported against the public healthcare service.

> Look, I go there, I wait all day [the public health center], and for what? Nothing. The doctor doesn’t even touch me. How can he know what I have if he doesn’t even cross their desk to touch me!? - Roberto, 44

Student brigades thus, while often clumsy in their interactions and translations with patients, have the positive effect of satisfying patients’ need to be examined with proper levels of attention. Findings of large examining groups, limited translational capacity, and exemplary hands-on attention were not exclusive to only student affiliated STMMs, however the issues of size were often exacerbated on the education-based trips. The time and touch that short-term providers gave patients proved to be a hallmark of STMMs, according to many Nicaraguans. In fact, the hands-on attention patients’ received was reported as a strength by patients from each observed brigade, regardless of affiliation. Patients enjoyed feeling like the doctors were really engaging with them and taking the time to figure out what was causing their symptoms and illnesses. Even when the treatment process was not well-communicated to patients, they seemed to be satisfied by the amount of time that their cases received.

Groups of professionals were more likely to work in smaller groups and have smaller ratios of STMM participants to patients. When the professionals were foreigners (seven of the nine health professional affiliated STMMs) they often consulted with a Nicaraguan physician or translator when necessary. Since education was usually not a primary goal of their trip, the professionals had far fewer “teaching moments” with other STMM participants than the student attended trips. This meant that patients were
typically not left wondering what was being said about them and their case for as long of a time period. However, all participants still reported feeling like they received enough time and attention from professionally affiliated STMMs. Care from professionals was also typically specialized care.

In addition to STMM affiliation, the type of care STMMs provide is another significant distinction among short-term groups. The type of care can typically be defined as either primary care or specialized care. Primary care trips included basic diagnoses, prescriptions that patients can take to a pharmacy, medications to take home, and sometimes a referral to the regional health center or hospital if the case was chronic, or too serious for an STMM to treat.

Essentially, primary healthcare STMMs, provide services Nicaraguans are able to access at public health posts and centers. The main advantage of the primary care STMMs over public health facilities, however, is that the STMMs guarantee patients will receive medication. Specialized STMM care is defined as a specific type of healthcare provided by one or more medical specialists. Matagalpa hosted groups of vascular surgeons, ophthalmologists, audiologists, gastrointestinal surgeons, and orthopedic surgeons during the 12-month study period in Matagalpa. However, there are many other types of specialists operating in both Nicaragua and the global healthcare system. These distinctions in type of care, along with different STMM affiliations and purposes, are all variables that can change the experiences that local patients have accessing short-term care.

**Short-Term Medical Missions: Inaccessibility, Need, and Long-Term Worries**

Analyzing the interview and participant observation data with text analysis software (MAXQDA) produced a list of the most common responses Nicaraguans had
to questions about the role of STMMs in their healthcare system. Nicaraguans were most likely to mention issues of access and quantity in response to questions about STMMs. Common responses about STMM's roles in their healthcare system included statements such as, “they [STMMs] are not for me [the Nicaraguan respondent]” and general requests for more STMMs to come, “they should send more, we welcome them.” When speaking with medical or development professional participants often a more critical tone emerged, expressing ideas that “they [STMMs] are not really helping, they are just a distraction from the problem [the inaccessibility of care].”

Each of these three responses is elaborated upon below. Interestingly, all three of the most common responses to a question about STMMs' role in the Nicaraguan healthcare system, did not speak to the specific role of the short-term organizations. Rather, respondents tended to answer with information about a more intimate relationship they personally had with STMMs—reflecting feelings of inaccessibility, desire, futility, or even combinations of the three feelings. Respondents primarily spoke of STMMs as foreign services and rarely distinguished between the types of affiliation or care when mentioning them.

**Not for Us**

A main idea that participants frequently reiterated was that STMMs were not for everyday people. Stories were often shared about how if a person wanted to visit an STMM, they needed “something” in order to be treated. When the STMM was church affiliated that something was often a ticket that the church pastor or community liaison would distribute prior to the medical group’s arrival. It was widely assumed that the tickets were almost exclusively given to church members, so unless one was a regular attendee of the local Catholic or Evangelical church, respondents viewed obtaining a
ticket as an unlikely event. Sometimes other community members were encouraged to
go wait and see if the medical group had time to treat patients after the ticket-holding
ones were seen, but other STMMs ended up turning people away without tickets,
knowing that they would only have time and supplies for the fifty or seventy-five patients
they had planned on seeing. In many cases, participants’ assumptions about the
difficulties of attaining community STMM care were valid.

One respondent told me that the only people who were seen by STMMs were
people with “pull His word choice suggests the leverage needed in Nicaraguan society
to secure coveted medical treatment, even treatment meant for the most destitute and
marginalized. This ideologically earmarked care however, is still viewed in practice as a
service that requires a certain degree of social capital. “Pull” can come in various forms,
such as a family member working at the Regional Hospital. Such a connection could
potentially secure someone a spot on the list of patients to receive a kneecap
replacement by the visiting orthopedic surgeons, but it would likely depend on how
much weight the relative carried at the hospital. According to Nicaraguans, these limited
and often free services are for, “gente seleccionada – gente de sus amistades,” or
selected people, friends of friends. A janitor, for example would be far less likely to
secure surgery for his family than a physician or director of a health center would.

Community members also told me of other ways of having “pull”. It was not
always connections to those in key positions, but also good standing in a community
that could gain access to STMM care. Volunteers with the local political party (FSLN),
the community health junta, and local church members were all people in favored social
positions. Although these ties would not likely gain people access to the STMMs in
hospitals or NGOs (which are more likely to provide specialty or surgical care), local social capital could gain someone access to the STMMs provided in nearby neighborhoods (which typically provided primary care).

Though there were multiple ways to gain “pull”, the majority of respondents reported not having the level of connection necessary to access STMM care. In fact, out of the 53 social network analysis interviews only 12 reported someone in their household visiting a STMM. One frustrated young mother described the process as “una política,” a political thing. “The church or the school – whoever it is – they have the power – and they select the people [who are given tickets].”

In addition to lacking the connections necessary to access an STMM, many Nicaraguans also reported lacking the information about STMMs or the time in their busy schedules to visit one. When community health promoters, church leadership, or NGO employees pass through a neighborhood to inform residents that an STMM is coming, those out working are most likely to miss this information. Similarly, they are also the most likely to miss the opportunity to attend the short-term healthcare services since STMMs typically operate during normal working hours (between 8am-5pm). In a country with a widely recognized underemployment issue (CIA 2014) it may seem that those with jobs are a less important demographic to focus on serving. However, due to the large number of Nicaraguans employed in the informal sector, and the well-documented financial vulnerability of those with informal employment, it is often these sectors of the population that could benefit most from free medications and treatments (Babb 2001; Kinzer 2007; Lancaster 1993).
The few respondents who did mention the importance of their connections when receiving care from an STMM were proud of it, as Lydia was – “My sister, she works at the NGO here in Matagalpa. She called me up in Managua and I just drove up. My veins were horrible – painful yes, but also very ugly – look! They are going to look much better now.” Lydia was the most well-dressed patient in the white linoleum waiting room for the week-long Vein Clinic at a local NGO. The fact that she had a car and was able to drive herself the two-hour trip to receive non-urgent treatment, reflects a broader level of privilege in her life in regards to financial resources and flexible work or household demands. It is likely that the people privileged enough to have the necessary “pull” tend to be privileged in other ways as well.

This example certainly does not mean to imply that all patients treated by STMMs are either well-off financially or well-connected. However, stories such as Lydia’s call into question the practices through which STMMs select the participants they treat, or perhaps the process that their affiliates use, as this is more often the case. In reality, the process of selecting future patients or notifying them of upcoming services is one that is typically not handled by the STMM, but rather their facilitator – whether that be a local or international NGO, a healthcare site, or a church. This is not a condemnation of local community and organization members deciding how to select and solicit patients for STMMs; local residents are likely better suited for this task in nearly every way. However, it does make the process “political” on a more personal level when the decisions are being made by neighbors, friends, and colleagues. In turn, the personal politics associated with STMMs seem to contribute to general feelings of disempowerment within local healthcare system.
**Just Send More**

Related to participants’ sentiments that STMM treatment is inaccessible, is a general desire for more STMMs in Nicaragua. Sometimes this feeling was shared directly after respondents vented about how they had not ever been able to attend an STMM. “I have never even seen one, but if I did – I would want to go. Tell them to send more Jessi! There is not enough here for all of us.” Rosario, like many of the Nicaraguans I spoke with about STMMs, associated my foreignness with a relationship to the foreign STMMs she wanted to visit her community.

As mentioned, three of the sixteen STMMs in Matagalpa during the study period were teams of local physicians and community members. No respondent ever made specific mention of wanting more of the local Nicaraguan groups to do work in their communities, only the foreign ones. International STMMs were thought of as, “bringing toys and stickers for the kids” and giving out, “enough medicine to save some for emergencies.” The local Nicaraguan short-term efforts often had similar components; for example, the Nicaraguan church that facilitated a half-day of primary care in a low-income neighborhood had a piñata later that evening. That team also had more free medicines available to patients at no cost than Nicaraguans could usually access at their public health facilities. Despite the similarities, local STMMs were not typically mentioned in the conversations where people spoke about wanting more. From what was observed, it seemed that the local STMMs, were understood as more of an extension of the existing healthcare system. There were local doctors working in a new
setting. The same medicines, but in greater quantities. There was no illusion of specialty care or higher quality service\textsuperscript{13}.

Foreign STMMs on the other hand, were spoken about as an alternative to the options patients currently had – a departure from the Nicaraguan healthcare system. People frequently mentioned wanting more of them to come to Nicaragua, with statements like “They are all welcome – Come on over!” Others had more specific requests about what types of STMMs would be most beneficial. Gloria, an employee at a local women’s health NGO told me that if STMMs wanted to come they should bring dentists.

Look, dental care is really important here. I can’t tell you how many people come to our clinic asking for dental care. We only have a part-time dentist though – and in truth, that is not our vision. We are here to provide women’s health services. If brigades [STMMs] want to come, tell them to bring dentists. People can’t get [dental] attention here.

Despite having more dentists per capita in Matagalpa than any other type of health specialist, dental care was frequently mentioned as a significant need in the city and the country. If any sort of dental treatment other than an extraction is needed, private services are necessary. The only dental care available at the public health centers are emergency treatments and extractions, which are typically considered the same thing (Forbes and Gutiérrez 2015). This is not because the public dentists cannot perform other treatment, but simply that the protocol at public health centers does not allow them to do so. Due to the large number of patients and limited supplies and personnel, extractions are considered the most cost effective and suitable service.

\textsuperscript{13} Alternatively, this could have been because Nicaraguans did not assume I had any connection to the locally organized STMMs, thus they did not feel it was useful for them to stress a desire for “more.”
Matagalpan residents visit one of the city’s 25 private dentists if they need anything other than an emergency extraction, or want a second opinion about keeping a tooth. A visit runs between 100 to 400 Cordobas ($4-16 USD) and considering that roughly 48% of Nicaraguans live on less than a $1 USD a day (Saunders and Krasnoff 2015), private dental care is cost prohibitive for the majority of the country. There are a few NGOs in Matagalpa, like the one Gloria worked for, that offer limited dental services (between once a week and once a month) as an addition to their full-time health mission. NGO facilitated dental care typically still requires a payment, but it is usually less than half of the price of a private visit; however the dental services offered by NGOs are still typically limited in scope when compared to private dental practices.

STMM dental care in Nicaragua however, is almost always free or provided at a far reduced cost, even compared with NGOs14. The visits usually come with free toothbrushes, toothpaste, and floss. The accompanying supplies may seem meaningless, but in households where family members may share a toothbrush and do not regularly have toothpaste, oral hygiene supplies can significantly contribute to a household’s immediate ability to practice improved dental hygiene. Although other types of healthcare were mentioned during conversations where Nicaraguans communicated a desire for more STMMs to come provide services, dental care was the most frequent request. Despite a trend of feeling unable to access services, many Nicaraguans still had specific ideas about what types of STMMs their country and communities needed.

14 In fact, I did not observe an STMM that charged for dental services during the year of study.
The perceived inaccessibility of STMMs and the communicated general shortage of them suggest that STMMs are understood as exclusive services, widely desired, but unlikely to be attained. Unfortunately, this feeling of unfulfilled want within the healthcare sector is not limited to only STMMs; many respondents also presented their relationships to private healthcare provision similarly. Private services were often also seen as desirable services for all, but only used by the few and select members of the Nicaraguan population that could afford them. Attitudes toward private providers and STMMs differed however, in the expectation that greater numbers of them would equal greater access. While Nicaraguans never mentioned that they wished there were more private healthcare options, it seemed that many of them could envision a time or future where they were able to benefit from increased STMM services in their country.

**What do They Really do?**

Ideas about STMMs among health and development professionals typically did not follow the previously mentioned trends, which were mainly expressed by Nicaraguans outside of the health and development sectors. In both casual conversations and semi-structured interviews about STMMs, health and development professionals’ concerns about the long-term realities of short-term health actors typically took precedence over issues with the implementation, accessibility, or number of STMM services. However, as Gloria’s comments illustrate, there were ideas about which types of specific STMMs would most benefit the Nicaraguan population coming from the professional community.

The responses from the health and development professionals, mirrored those mentioned by STMM scholars and self-critical STMM participants. First and foremost professionals tended to worry that STMMs were coming to provide services in a country
that they knew little to nothing about. Reflexive physicians and medical students have written about the experiences of misdiagnosing patients because they did not have the necessary knowledge of local diseases, conditions, or contaminants (Seager et al. 2010; Wallace 2012). Nicaraguans have observed the same thing, but from the receiving end of improper care. One Matagalpan doctor working with an STMM, mentioned that his primary job is to provide local expertise and make sure that foreign groups are not misdiagnosing or mistreating patients. However, at times there were too many patients being treated by groups of STMMs and he was afraid that some of the patients received treatment and medicine without his revision.

One thing, these STMMs cannot be cheap about hiring enough local health professionals. It is a problem when they don’t because they are not Nicaraguan and they do not know what they are looking for sometimes. Also a lot of times, they [STMMs] do not even speak Spanish very well. So it [revision by a Nicaraguan doctor] is even more important then.

This lack of local knowledge and realities was observed during a pre-medical student STMM trip that was conducting a Public Health Campaign outreach. Five students and one Nicaraguan translator walked house to house in a rural area with a laminated sheet of photos and illustrations. The students explained in English that the families needed to use soap when they washed their hands, food, clothes, or dishes. They explained that hands needed to be washed before preparing or eating food and also after going to the bathroom. Then the images were motioned to, “If you don’t use soap you can get worms, parasites, and infections that can be deadly.” It was a frightening collection of images to show families who were so financially strapped that they had no option but to ration soap use to clothes washing and vegetable rinsing.

I spoke with a Nicaraguan housewife in Spanish as the group was leaving, “We know to use soap, it’s just that we don’t always have it. Do you all have soap? Can you
give me some?” It was a lack of knowledge of local circumstances and limitations that
turned an educational moment into one that further shamed households for their
uncleanliness. The university students had spent their public health funds printing and
laminating sheets illustrating generally understood health advice with frightening images
rather than contributing material resources that could prevent the illustrated outcomes
(at least for a short period). Instead of students’ concerning themselves with the much
larger problem of why so many Nicaraguans struggled to afford soap, they instead put
the onus of affording health solely on the individual households.

Another idea repeated among Nicaraguan professionals was that short-term
outreaches’ long-term effects would be greatly increased if they would incorporate
training into the missions. They were not referring to the misguided public health
campaigns, but rather specialized training for health professionals. Instead of relying on
specialists to visit and treat Nicaraguan patients, many Nicaraguan health professionals
expressed direct interest in learning how to provide specialty care themselves. While
health professionals recognized that specialized training could potentially create
professional opportunities for them, they knew that it would also build their country’s
healthcare system.

A vascular surgeon from Dallas, Texas was the only STMM that was observed
providing practical training for Nicaraguan physicians (Dr. Rocha and Dr. Santos) in the
year-long study. For the past six years Dr. Reeder had come at least once, and
sometimes twice a year to Matagalpa. Dr. Reeder became interested in short-term
medical aid in Nicaragua when he learned about it from a colleague at a national
vascular conference. His colleague gave him the contact information for Clínica Fara, a
women’s health NGO working in Matagalpa. The first year Dr. Reeder came to Nicaragua he worked at Matagalpa’s Regional Hospital, were the NGO had set him up, but unfortunately he found the operating rooms lacking the basic amenities he needed to treat patients (there were frequent water and electricity outages) and what he described as generally unsanitary conditions. After the NGO finished construction on a large wing of their building dedicated to housing STMMs, Dr. Reeder was able to move the vascular surgery STMM to *Clínica Fara*. Though the wing was not on par with Dr. Reeder’s Texas office, he made clear it was a vast improvement from the Nicaraguan public health facilities he had worked in previously. There was a generator in case the power went out, and the floors and tables were cleaned multiple times a day by an *empleada*. However, very often it was the light of one of his assistants’ i-Phones guiding Dr. Reeder as he closed veins with a pencil-sized laser. Despite a backup power source, the NGO still did not have the 35-watt IRC halogen bulbs Reeder had become accustomed to working beneath.

His STMM team was primarily made up of his family, although usually 1 or 2 medical assistants from his Texas office came as well. His wife was skilled in post-treatment procedures and would walk patients through the follow-up care (such as finding the appropriate size compression stockings and putting them on the patient) with a clinic employee. Dr. Reeder’s two children were both college-aged, one studying business and the other working as a fitness instructor for a nationally recognized boot camp program. Though there were legitimate and serious ethical concerns about the degree to which the Reeder children participated in the medical provision, they were closely supervised by their father. The final family member was Dr. Reeder’s brother-in-
law, Kevin. He too worked at the vascular surgery center in Dallas, as the Office Manager. Despite Kevin’s lack of formal medical education, he had been on various trips with Dr. Reeder and had been “learning more each time.” This trip he was treating patients with Dr. Santos, a local physician that had also been “learning more” each time the vascular surgeons came to work at Clínica Fara. This allowed two patients to be seen at a time, although usually the pace was slower as Dr. Reeder worked to supervise Kevin and Dr. Santos and also spend time with his son and Dr. Rocha who comprised the other team.

Dr. Reeder was very clear about how important the Nicaraguan doctors were to the success of the STMMs he and his family participated in. “The most important part of this whole thing is that patients are able to get the follow-up treatment they need from doctors who work here, at this clinic.” Dr. Reeder and Dr. Rocha had worked together to institute a well-ordered file system for all of the vascular patients. This was especially important with the vascular group, because many of their patients needed long-term care and treatment. Dr. Rocha was able to continue seeing them when Dr. Reeder and his team were no longer in Nicaragua. She was also able to monitor patients’ progress and make recommendations about which ones needed to be seen again by the STMM during the next week-long clinic. The files included photos of any existing wounds along with illustrations of the front and back of each leg so that the STMM could mark areas they treated. Within three years two other groups of vascular surgeons began coming and doing their own week-long clinics at Clínica Fara. With new short-term teams, the medical records became increasingly important, not as just a way for Dr. Reeder’s team
to remind themselves of what they had done the last visit, but also to communicate patient histories and treatments with the other vascular groups.

Dr. Reeder’s daughter opened a file for Sra. Llantos in front of me, while her father looked at Sra. Llantos’ deep vein system with an ultrasound. “See here, she came to see us one year ago – the wound used to be huge – and now look – it almost healed up! You can tell it is because we used foam to close the vein up on the back of her left thigh.” Sra. Llantos’ ulcer had previously taken up the better part of her left calf, an open red and yellow sore eating its way across her flesh. Now as she sat in front of us, her ulcer had shrunk down to the size of a church wafer. It still opened up red and yellow across her leg, but there were the purple, blue, and brown markings closing it in, showing where it had shrunken from, the remnants of dried blood under the skin that were trapped in the now closed veins.

The doctors said the discoloration would fade with time. Sra. Llantos was “the success story;” the kind Dr. Reeder’s team liked to show their few donors and the people from back home that doubted what vein surgery could actually mean in Nicaragua. Sra. Llantos had healed so much and so quickly, Kevin commented to his sister. “This is why we do this. This makes it worth it,” she told me. Kevin called others not in the room to come and see the healing, showing them the before photos and letting them marvel at the “after” leg before them. Although not much of this was translated to the patient she could tell something was very exciting to all the doctors and volunteers\(^\text{15}\), although it was likely hard to tell if it was good or bad. I tried to reassure

\(^{15}\)Although it was never made clear to Sra. Llantos or any other patients I observed, who was a doctor and who was a volunteer. Typically the entire group was introduced as physicians.
her in Spanish that it was good, that the team was impressed with the changes in her
leg. She appeared a bit more relaxed, sitting further back into the chair, but still watched
anxiously as charts and photos and stares were passed around her and over her. She
had become an item in the operating room.

Dra. Rocha was instrumental in the success story of Sra. Llanto; she had seen
Sra. Llanto four times since last year’s surgery for follow-up treatments. The doctor
changed bandages and prevented infections, as well as monitored the healing process.
Due to the lack of vascular surgeons in Nicaragua, Dr. Rocha had inadvertently become
the preeminent Nicaraguan vein specialist. Although she was still learning how to use
the laser and foam injections to close off unhealthy veins, she was skilled at providing
maintenance-level care and assessing the severity of ulcers and high-risk superficial
veins. Dr. Reeder taught Dr. Rocha, both in Nicaragua and when he and his family flew
her to Texas for three weeks of training at his private clinic.

This case of professional mentorship and training between Dr. Reeder, Dr.
Rocha, and Dr. Santos was unique for an STMM, but also quite effective at dealing with
some of the ethical issues (thought obviously not all) that Nicaraguan professionals
raised. The STMM included a training component that built capacity in the Nicaraguan
community and healthcare system and created an option for long-term follow-up care.
The fact that follow-up care was at the same location as the STMM treatment made
scheduling the subsequent appointments easier since patients were returning to a
known healthcare provision site in the area. This type of investment on behalf of the
STMM and the Nicaraguan physicians, created longer-term care opportunities for
patients out of short-term missions.
Are STMMs Reordering Urban Healthcare Systems?

Even when STMMs are able to contribute longer-term outcomes in local healthcare settings, there is still a larger question looming about how they impact, interact, or perhaps reorder\textsuperscript{16} global and local healthcare systems. Previous ethnographic research has shown that foreign STMMs have the potential to make significant political, economic, and cultural marks on the existing systems within which they engage. This study explores how STMMs are making such changes and how in doing so they have become a part of the larger body of the institutionalized practices of development (Escobar 2011). Though this ethnographic research examines STMMs’ interactions and integration in only one Nicaraguan city, it provides a framework for evaluating STMMs in other urban locations.

Supplementing State Services

STMMs supplement the state’s provision of healthcare to Nicaraguan citizens in a number of ways. Visiting and local medical groups provide medicines that many Nicaraguans are unable to afford or find, foreign groups perform surgeries that are otherwise unavailable, and both foreign and local groups treat patients in rural areas where the state lacks the appropriate infrastructure and personnel to offer even basic primary care with consistency. While STMMs are able to help fill in some of the gaps in the Nicaraguan healthcare system, they too lack the personnel and coordination to do so with consistency. This leaves Nicaraguan patients, physicians, government officials, and public health officials to wrestle with the idea of “better than nothing” care options

\textsuperscript{16} Reordering here is not used to mean a one-time shuffle or reorganization of health services, but rather part of the continual and constant process of change happening in global healthcare systems.
that so many short-term aid participants espouse when explaining their work (Berry 2014). Some STMMs however, such as the Dallas vascular group, are focused on finding a niche of care and creating long-term relationships with local health providers and patients.

While this type of system-level service supplementation is the goal of many of the STMMs I observed, scholars and practitioners of development have long criticized aid models that create obvious donors and recipients. James Petras, Arturo Escobar and many others described this type of unidirectional international and local aid as a way of supplementing global neoliberal capitalist policies that disproportionately negatively affect poor and marginalized populations (Petras 1997, Escobar 1995, Schuller 2012). When structural readjustment policies (SAPs) took effect in many countries during the 1990s, policies cut spending on social services and further limited access to basic healthcare and other services in many countries. NGOs began to step in and start supplementing the social services that governments were less able to provide after implementing the new policies (DeMars 2005). While many NGOs were focused on the immediate needs of the populations with less access to social safety nets, scholars and activists saw the long-term effects of supplementing state services in the global south. When non-state players provide services to citizens that the state should be providing, such as healthcare, those actors are then allowing the state to continue to postpone attending to their citizens’ most basic needs.

Creating an Alternate System

As demonstrated here and written about by other scholars, the work of supplementing state services, even short-term, is difficult to do responsibly and ethically without causing unintended consequences (DeCamp 2007; Suchdev et al. 2007). Often,
alternative services provided by NGOs, international agencies, or short-term volunteers can alleviate pressure that governments feel to provide citizens with basic services, stalling government action and investment in new infrastructure. Non-state services can also create an alternate system of services for citizens, in various social service sectors, such as alternate schools and clinics (Schuller 2012). I argue that STMMs in Matagalpa, did create an alternate system to access care, although not a parallel one. There were additional hurdles to receiving short-term services, but often the obstacles were the same, or very similar to the ones patients faced when accessing long-term care options in Nicaragua – having financial or social capital.

Many of the participants’ answers supported the idea that STMM care seemed like an alternative system of healthcare, of which most of them did not have access. In urban areas, it seemed as if the short-term help that did come, it was geared toward the people who had the right connection or were in the right place at the right time. It created an alternative way to access specialty care and much needed medicines, but it was a system based on social capital and chance. More importantly, it was still a system that people felt was dependent on an individual’s power and circumstance. There were variations in the connections and capital needed to access care – depending on whether the STMM was held at an NGO, local hospital, or a neighborhood location, however that often just translated to differences in the identities of the gatekeepers.

One of the ways Nicaraguans were able to access care was by using a personal or professional connection to one of the physicians or directors of the Regional Hospital. Hospital personnel knew when surgical groups were scheduled and would prepare a list
of surgeries for the visiting team to perform. I spoke with the director for the trauma hospital in Managua, Nicaragua and he told me that the list was typically made with three considerations in mind: 1) patients who urgently needed treatment, 2) patients who had been waiting for treatment, and 3) patients who needed special treatment that was generally unavailable at the hospital.

Sylvia, a young mother that lived on the fringes of Matagalpa, described the time her brother was rushed to the trauma hospital after a highway motorcycle accident. There was a neurologist visiting from the United States that performed surgery on her brother, repairing the blood vessels and tissues that were damaged in his accident. Sylvia was grateful that her brother recovered, because “so many people never wake up after something like that.” She was also unsure as to how exactly her brother was selected for treatment. “It was a miracle – I mean a terrible thing – but that doctor being here in Nicaragua – and my brother being taken to Managua – that was the miracle. Right time. Right Place. That’s God.” Obviously, Sylvia’s story could reflect the proper use of the guidelines for STMM surgical care. It appeared that her brother was both in dire need of care, and that the visiting neurologist had a special skill set of specific use to the case. However, even when protocols for ethically and justly selecting patients to be treated by STMMs are followed, patients still seem to understand the care experiences as chance, “God”, or something else out of their control. Accessing STMM care was not a repeatable event in these people’s lives. They did not have control over this type of service.

17 Although there are many capable neurologists in Nicaragua, there are still some surgical techniques and specialty equipment they are not used to practicing or using.
While the statement from the director describes a logical and ethical way to prioritize care needs, and Sylvia’s story suggests proper use of the hospital’s protocol, most Nicaraguans reported that guidelines were not typically followed. Walking home from church one day, Marbelize explained that her mother-in-law received knee replacement surgery on her right knee last year after suffering decades with osteoarthritis and severe joint pain. Marbelize thanked God that her mother now was able to have the surgery and was now in less pain, but she also thanked the director that she had been a long-time friend of for getting her mother’s surgery on a visiting STMM’s surgery list. Other respondents who had received care from an STMM at a hospital, typically were either well-connected or unsure as to why they were selected for treatment.

Similar stories, regarding connections were told about the way people accessed short-term services at NGOs, such as Lydia’s, who drove to Matagalpa to have a few of her larger veins closed with foam injections. Clinica Fara, the NGO that coordinates the vascular surgeons, generally requires patients to visit the clinic at least once before the STMM arrives. This enables the NGO staff to assess and prioritize care among the potential patients, but also creates additional work for NGO staff (Berry 2014). When an STMM arrives the NGO would call the contact numbers for patients and tell them what day to come to the clinic that week. While there were stories of favored access to services within NGO’s STMM clinics, there were less of them. Generally STMMs working with NGOs, and with Clinica Fara in particular, seemed to seek to provide their short-term services to the region’s most marginalized populations. Although NGOs had different reputations and abilities to reach vulnerable groups, in general people’s
attitudes towards NGOs was primarily that they did offer reduced cost services and that they did try to work with vulnerable populations.

Community Leaders were the other commonly observed form of gate-keepers to STMM care. These were people such as church leaders, community health promoters, or the people associated with the location an STMM would be at (for example, the administrator of an elementary school). Freddy, was one of the most dedicated and energetic of the community health promoters I met in Matagalpa. He was also unintentionally an informal gate-keeper to short-term health services. Freddy worked with *Infancia Sin Fronteras* (ISF) and was excellent at his job. His territory kept expanding however, making it increasingly difficult to know and interact with the nearly 200 families in the two different barrios he had come to be accountable for.

The families he had known the longest, or were the most receptive to him tended to be the ones we would visit most frequently when I would go with him on his rounds to notify community members about upcoming health initiatives sponsored by ISF. Generally, this was one of the bi-monthly, daily clinics the NGO would put on in selected low-income neighborhoods throughout the city. Occasionally however, it was the announcement of a special, short-term service, such as the group of university students offering free parasite testing for children. It was a one-time event that the students were doing as part of their practicum. If parents were able to bring in a stool sample between 1-3pm on Tuesday, the students would provide free parasite testing and medicines (if necessary) for children between the ages of 2-6.

Freddy always did his best to equitably share information when he had it (although sometimes the NGO clinic schedules would change last minute). He posted
handwritten signs on the community center when he had the time, though they were often rendered unreadable by the afternoon rains. Freddy also organized community information sessions about available health services, and stopped by households on his way in and out of the neighborhood to announce upcoming services along with times and locations. In the months I spent with Freddy however, I was able to notice the households that he always made a point to stop by and update. These were the families that Freddy had known the longest who invited us in and often offered us cold drinks or sweets. They were warm and happy to see Freddy and even entertain his foreign sidekick’s questions on occasion. Although more subtle than many of the other ways that access to and knowledge of STMMs were guarded by community leaders, even within Freddy’s inspiring work ethic and practice, there were households that received more information and opportunities to access short- and long-term healthcare services.

STMMs were largely seen as an exclusive and elusive set of health services. Whether they were offered in conjunction with the public healthcare system at the Regional Hospital, sponsored by a local NGO, or a community center they created an alternate way to access healthcare services and medicines within Matagalpa. While it was not an entirely parallel system of services, there were areas of overlap and intersection with existing services, it was yet another modified chain of command, social capital, and selection of services for Matagalpa citizens to navigate. STMMs reordered the Matagalpa healthcare system by creating an alternate system of care services, where Nicaraguans often still depended on social capital and connections in order to access them.
This research found that this alternative system of short-term care only provides about 4% of citizens’ overall healthcare services in Matagalpa; however, within that small percentage lie opportunities to access care and medicines unavailable to resource-poor Nicaraguans. Thus, while the total service provision of STMMs remains relatively low in Matagalpa’s healthcare system, the alternative options represent the ability to access specialty care for many citizens who would otherwise be unable to afford it. STMMs are also understood locally by Nicaraguans as an important and potentially life-changing resource. Globally, they are an existing and growing healthcare sector that has great room for improvement, especially if they have the potential and desire\textsuperscript{18} to provide the most marginalized populations access to otherwise unavailable care.

**Weakening State Capacity**

STMM scholars and critics have suggested that the additional provision of medical services by short-term foreign providers creates distance and distrust between patients and long-term healthcare options, specifically state-operated public options (Bezruchka 2000; Ott and Olsen 2011). This research supports those claims to a degree. Nicaraguan residents frequently made comparisons between the quality of care they received at STMMs and their public healthcare centers. Descriptions of la calidad of care, or the quality, reflected the care that patients received, the general condition of

\textsuperscript{18} This desire to serve the most poor is taken from STMMs websites, quotes have been included in the paper, but also from independent research conducted in 2012 among Christian STMMs working in Nicaragua (Casler 2012).
the site of care, and the medications they received. All of these things were bound up in the patients’ experiences of STMMs and thus their ideas of calidad.

As previously referenced conversations with Nicaraguans mention, the touch of visiting volunteers and physicians, the increased availability of medicines (both type and quantity), and the additional gifts or perks of visiting STMMs frequently impressed Nicaraguans. The special equipment, supplies, and skill sets that foreign groups bring with them also often distinguish the healthcare experiences Nicaraguans have with foreign short-term providers from their visits to local healthcare facilities.

The audiology groups for example, brought hearing aids for the deaf children in Matagalpa and surrounding communities. The visiting physicians were able to fit children for the hearing aids and make sure the aids were working properly. The free hearing aids from the STMM were a great improvement over the lesser quality ones that only some of the children’s families were able to afford. Ideally, every deaf child would have been able to receive a higher quality hearing aid, but the STMM was only able to bring a certain number each trip. Monica Falk, the director of an NGO for deaf children about 30 minutes away from Matagalpa told me more about the process of receiving hearing aids:

> There are about 7,000 hearing aids in Nicaragua right now – they are pretty well dispersed too – except for the East Coast. They are of varying degrees of quality, but at least they are more accessible now. We get some for free and some at highly discounted rate through NGOs and visiting groups – it depends. What we need more of now are the surgeries some recent groups have been doing.

> Since 2002 only 16 cochlear implant surgeries have been performed in Nicaragua she told me. Or at least at Lenin Fonseca, she clarified, “maybe more
happened at the Pellas Hospital, but who really knows what happens there.\textsuperscript{19}” The visiting groups and donations provide much needed care for children with hearing differences, but also places local trust and expectations in NGO-sponsored STMMs to provide the care that deaf children need instead of establishing an opportunity for long-term care with the state.

This divide between what foreign short-term groups offer patients and what is available to them long-term, locally has been previously written about and identified as problematic (Bezruchka 2000; Illich 1968). Although STMMs are by no means always believed to be better care options\textsuperscript{20} most of the Nicaraguans interviewed favored STMM services over local available ones. By generating a preference for a type of and quality of treatment that is usually unavailable, STMMs can also increase communities’ discontentment with the healthcare services that are available to them locally. Public healthcare centers are typically crowded, with overburdened staff, and visibly less sanitary conditions than most private or NGO clinics. In general, public services were unable to meet the expectations STMM services established, further entrenching many Nicaraguans’ negative attitudes towards public healthcare in Nicaragua. When residents feel distanced from and distrust toward their local healthcare options it can negatively impact their desire to access healthcare services and their likelihood to respect local experts’ opinions (Bezrucha 2000; Citrin 2010).

\textsuperscript{19} Hospital Vivan Pellas, located in Managua, is the premier private health facility in Nicaragua. It is known for its large amount of expatriate patients and high-end surgeries (such as liposuction), not typically available in Nicaragua.

\textsuperscript{20} On three different occasions Nicaraguans mentioned an incident where a foreign STMM optical team with expired or “bad” medication had caused blindness among Nicaraguan patients.
In addition to contributing to potentially negative personal health outcomes, STMMs also have the power to impact the larger healthcare system. NGOs usually leave left over supplies and medicines with their local partners. This was observed during the research period, but has also been documented by other STMM participants and scholars (Berry 2014; Subedi 2001). Ten of the sixteen STMMs that provided care in Matagalpa were affiliated with three different local NGOs that specialized in health provision. Left over medicine and supplies from the visiting medical teams helped stock the NGOs’ pharmacies and treatment rooms. In the case of Dr. Reeder’s group, on-site and international medical training was an additional benefit of hosting the STMM. Of the remaining six STMMs that visited Matagalpa, only one was a foreign group that worked with a public health center facility. This means that the public healthcare system is likely only absorbing about 6% of the supplies brought by NGOs, putting the state in a weaker position relatively to the three NGOs that receive much larger portions of the annual STMM donations.

Certain critics of STMMs have acknowledged the additional workload they place on local partners (such as NGOs, hospitals, or churches), potentially negating the benefits of any additional supplies they may contribute (Bellows 2014). While the workload that STMMs create is certainly sizable, it is also dependent on the type of STMM and the local partner. In Nicaragua, the national government has taken steps to more closely regulate STMMs (Forbes and Gutiérrez 2015). MINSA claims this is an effort to protect citizens from unqualified medical care and expired medications, although many STMM participants and coordinators seemed to think the new laws were more about reestablishing authority among foreign health providers. Regardless of the
purpose for the new laws, MINSA now takes on a significant amount of work associated with visiting STMMs. Their offices file and verify paperwork for STMMs, sharing in the work of STMM coordination and often receiving little of the excess medicines, tools, or supplies.

MINSA is less likely to benefit from the physical remnants of short-term clinics and also forced to deal with the higher expectations for health services that short-term services contribute to. Although the ministry of health was not in a position to directly benefit from STMMs, MINSA’s national and local offices often did try to acquire what they could from the short-term foreign groups – credit. A local NGO employee that coordinated STMMs in Matagalpa was reviewing the healthcare statistics her organization had been able to get from MINSA earlier that year.

See here though, this line – the number of patients treated by MINSA – you never know the real numbers. They just add in all of our numbers to pad their reporting. Each year we have to tell them how many people we treat here at the clinic. We also have to tell them how many people receive care from the short-term groups. And those numbers, they just get added up here – making MINSA look real good, with no mention of the NGOs and STMMs working here. To be fair though I really don’t care about the credit – it just makes it harder to understand what the real health situation is here when you can’t trust the ministry’s annual reports.

This could be seen as MINSA using their agency to take advantage of the short-term health providers coming into their country. Perhaps MINSA feels that their verification of the medical teams and medicines entitles them to some of the credit for the patients who are treated. The actions of the government’s health ministry certainly seem to reflect an entitled attitude toward short-term missions. Dr. Reeder had his own story about MINSA taking credit for work they had not done.

A few years ago we came to do the clinic, it was the first year we did it [the vascular surgery clinic] at Clínica Fara instead of the hospital. We saw some news cameras outside and figured that they were interviewing the
patients waiting to be seen, asking them where they were from and all that. Honestly, we were happy for the exposure. Not that we don’t already have enough patients, but still it’s good that the people know we come and what we do. Well later that night we get home to the hotel and see the clip on TV and they are saying that Daniel Ortega sponsored the clinic and our work. ORTEGA!? He had nothing to do with it. We pay our own way down here every year and take off work. I tell you what, the staff at Clínica Fara – that is who deserves credit – not Daniel Ortega.

Once again the government was able to capitalize on the work of STMMs, this time by claiming STMM work as their own, rather than just in their annual reports. This was an interesting case, because the TV station did not claim that MINSA organized the trip, but rather that the president of the FSLN party himself was the reason for the free short-term specialty care. In Nicaragua, there are only eleven national TV channels. Many of the stations are widely known to be part of a long history linking many of the media outlets financially and ideologically to the ruling political party, FSLN (Kinzer 2007). Incidents like this likely reinforces many Nicaraguans ideas that public health services and at times STMMs, are politically affiliated and meant to benefit party supporters.

Findings

In Matagalpa, foreign STMMs reorder the urban healthcare systems in ways that create alternative pathways to care, weaken the public health system, and fortify the non-profit health sector (instead of the state sector). In many ways, foreign STMMs are brief bouts of a larger development agenda. Despite their limited time in country, the medical trips often mimic and contribute to the long-felt effects of development agendas operating in the global south. These visits are not uncontested, however; the state actively takes credit for the work of the STMMs both in annual reports and through local media when able. Studying STMMs as they are used within the larger healthcare
systems has shown how short-term medical services are contributing to new understandings and iterations of age-old development agendas in Nicaragua.

In addition to their system-level effects, STMMs also influence the way individual citizens think about and access care in their health systems. In some ways urban STMMs are functional on an individual basis. They allow for some individuals to receive care they otherwise would not. This is care that could arguably be life-saving, or in the case of vascular surgery, at the very least, limb-saving. STMMs are able to make significant impacts in individual patients' lives; however, there are negative effects for individuals and communities as well. Ethnographic data shows short-term trips to be elusive to patients, exploitative, and divisive among communities, NGOs, and the local healthcare system. STMMs enhance people's existing feelings of disempowerment and dissatisfaction with the Nicaraguan healthcare system. Similarly to NGOs, there seems to be a significant divide between STMMs' theoretical aims and practical realities for healthcare systems and individuals (Bristow 2008:252). STMMs complicate an already complex healthcare system, and raise new concerns about the theoretical and practical value of short-term global healthcare interventions.

Despite the fact that many Nicaraguans do not feel STMMs are accessible in their current healthcare systems, many remain optimistic that STMMs could become a viable healthcare option for them in the future. Nicaraguans specifically want greater access to STMMs and more specialty medical care from short-term groups. On the other hand, global health and STMM scholars are less certain of the potential for positive healthcare gains from STMMs. There are ongoing questions about whether there is reason for hope, investment, and reform in STMM practice. In fact, the majority
of recommendations made for STMMs are devoted to increasing short-term medical care’s long-term effects on community health. However, many of those recommendations are counter-intuitive to the paradigms of short-term trips and the motivations to participate in them\textsuperscript{21}. Such suggestions for STMMs often include: staying longer, returning more frequently, only working in one location, donating money rather than skills when appropriate, and working with local public health providers.

Dr. Reeder’s vascular team followed many of the previously mentioned recommendations for effective STMM care. In fact, out of the twelve observed STMMs his group appeared to be the most invested in insuring positive long-term outcomes in Nicaragua. The vein surgery clinic provided otherwise-unavailable healthcare to citizens who needed it, while also contributing to long-term capacity building in the local healthcare system. However, even though Dr. Reeder’s team could be considered a best case scenario in many ways, there were still concerns about the way the medical team provided care and the impact it had on the local NGO and patients.

The involvement of non-medically trained individuals was a serious ethical concern. The increased workload for the local NGO (coordinating and translating for the STMM) and incidents where patients were inadvertently treated as objects were less critical, but still tangible difficulties associated with the short-term, foreign care. The example of Dr. Reeder’s medical team illustrates that even the most professional, prepared, and invested STMMs still need constant evaluation and improvement. Sadly,

\textsuperscript{21} This includes the frequently cited desires for gaining medical practice and sight-seeing while abroad.
it seems that even exemplary STMM care is often unable to meet basic ethical
requirements outlined by global health scholars (Farmer and Kim 2008).

Similarly to other studies of STMMs, this evaluation alternates between
embracing the opportunities STMMs offer and wanting to change the processes and
mindsets that short-term care represents. In theory and practice, STMMs are often at
best groups of individuals providing itinerant and intermittent relief from acute and
chronic health concerns among populations that often do not have regular access to
healthcare services or the tools they need to maintain basic levels of health
(employment, housing, etc.). It is difficult to critique any mechanism that may provide
vulnerable populations even a brief stint of access, however; if there is a true
opportunity to improve STMM care, it seems we must.

There is often little thought from STMM planners and participants about the long-
term consequences or system-level effects of their actions. Addressing global health
disparities without recognizing the gravity of the problem, how disparities have formed,
or what it will take to make lasting improvements can be likened, and often is, to putting
Band-Aid on a bullet hole. More accurately, it is like putting a Band-Aid on a bullet hole
without first considering what the correct treatment is, why there is bullet hole to begin
with, or when the next fresh bandage will be available.

The volunteers of short-term missions often walk away with a reaction to their trip
abroad that is portrayed as humble or globally conscious. It is the familiar phrase, “I got
more from this trip than they [local population] did22.” This admission that the volunteers

22 This was a comment from volunteers repeatedly heard during the research, expressed by previous
STMM participants, and written about by other STMM scholars (Citrin 2010; Wallace 2012).
of trips gain more from the experience than the people who they are there to treat, medicate, or diagnose is a powerful realization, but it is also one that questions whether STMMs are capable of understanding their role as “donors” and volunteers can often become a more subversive form of exploiting vulnerable populations.

Rather than seeing this common answer as humble, it is more accurate to understand it as exploitative and STMMs as part of a globally exploitative process. STMMs have been written about as places where students and professionals from the global north are able to go practice their skills and engage in hands-on learning (Wallace 2012). Though STMMs are exploitative to this degree, this ethnographic study also reveals other ways in which they weaken healthcare systems and reproduce hierarchies. I argue that STMMs are not the places where foreign citizens should be practicing new skill sets or experiencing their connection to global civil society (Hulme 2008). Medical care and systems should not be places for practice and experience (for those that are not already experts), nor places where the bulk of cultural relating and understanding is meant to happen.

Instead this research suggests that the primary care STMMs, the ones that provide medicines and bring untrained students and church members, working in urban areas where a robust (if imperfect) public health system already exists, should find other ways to connect and learn about Nicaragua. The type of connection built between volunteers from the global north and people receiving STMMs in the global south should take place in spaces where there is the time for foreigners to understand the political, historical, and cultural realities of the peoples they are trying to serve. Relationships
built on mutual learning and sharing could be much more meaningful than those formed while hastily handing out medicines or listening to heartbeats.

This study also revealed that sometimes STMMs are the only way to access care, but that this “better than nothing” lens of care should not be applied indiscriminately. Many scholars and activists have made the argument that “better than nothing” is not good enough (Bezruchka 2000). It often times is also inaccurate. Although the groups of pre-medical students and church members I interviewed often assumed that they were providing life-saving care to Nicaraguans in reality they were often more of a pop-up pharmacy.

Urban Nicaraguans do have access to public healthcare facilities. Moreover, the people who were unable to visit their public household or work responsibilities, were equally unable to access STMMs. Thus, the main issue is not inability to access care, but rather the lack of available medicines. In urban areas, it is not the care or attention that primary care STMMs bring that is invaluable (although it is often times appreciated by patients), but rather the medicine. Perhaps, providing short-term consults around the city is not the best way for Nicaraguans to receive medicines either. If groups were willing to donate the medicines to public health facilities, there would likely be more equitable division of the resources and even potentially restored faith in local systems.

Perhaps, in the case of urban Nicaragua, STMMs should be limited to providing specialized care. Those specialized groups could be required to come for a certain minimum number of years and to mentor and train local medical professionals to provide follow-up care at the very least. The very best case scenario would be that STMMs train local physicians over time so that local doctors are eventually able to
provide the same services as STMMs. This recommendation, along with many of the others that have been made by STMM scholars and critical STMM participants, would likely limit the number of STMM trips taken and the number of people participating in them. Although that might be seen as a negative outcome, it is likely that more meaningful interactions between foreign health professionals, local populations, and physicians could emerge.

This type of STMM work could also address some of the health issues Nicaraguans struggle with at a more system-wide level, by increasing capacity for care, follow-up treatment, and perhaps even access to basic medicines. If STMMs are to be relevant in global health systems, they will need to move from providing temporary care and relief to random or well-connected individuals, and instead learn to provide care and training in more sustainable ways to work against systemic disparities.
CHAPTER 6
REORDERING STMMs IN URBAN NICARAGUA

STMMs in Urban Nicaragua

The large variety of STMMs operating globally, and more specifically those in Nicaragua, has been discussed throughout the chapters of this dissertation. Rather than reiterate the common types of care STMMs offer or their affiliations, here I present the 16 STMMs that performed services in Matagalpa in Table 6-1, and the 4 additional STMMs I was able to observe during my fieldwork in Table 6-2.

From Table 6-1, it is clear that certain groups of medical providers performed short-term care at various locations. Since sites of healthcare provision were used to measure network data, each time an STMM group provided care in a new location it was counted as a separate STMM. Sometimes, the groups were providing different types of care; for example, the Georgia church group (lines 3 & 4 of Table 6-1.) was one large group that split into two smaller teams. One team provided primary care at a local church and the other group went to the hospital to provide surgical assistance and care. Thus this one group was considered to have provided two separate opportunities for short-term medical care.

Another note for reading Table 6-1 is that there are two church groups from Florida. The group in line 9 is a different team than the group listed in lines 13, 14, and 15. If two STMMs with the same identifier are listed next to each other in Table 6-1, that signifies that they were either the same group repeating different missions, or one large group that split into multiple teams. Line 16 shows a vascular group with participants from Italy and Arizona listed as one STMM because both groups were providing the same type of service at the same time at the same location, thus resulting in only one
opportunity for short-term medical care. This is certainly not a perfect way to categorize STMM initiatives, but given this study’s focus on location and sites of provision, this was the best approach to quantifying STMM in Matagalpa.

Table 6-1. The STMMs in Matagalpa, Nicaragua from 1/2014-12/2014.

<table>
<thead>
<tr>
<th>STMM</th>
<th>Type</th>
<th>Affiliation</th>
<th>Location</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Ophthalmologists Group - Cuba</td>
<td>Specialty</td>
<td>MINSA23</td>
<td>Public Health Center</td>
<td>10 days</td>
</tr>
<tr>
<td>2 Vascular Group – Texas</td>
<td>Specialty</td>
<td>Clínica Fara - NGO</td>
<td>NGO</td>
<td>5 days</td>
</tr>
<tr>
<td>3 Church Group - Georgia</td>
<td>Specialty</td>
<td>Medical Ventures International (MVI) - NGO</td>
<td>Public Hospital</td>
<td>1 day</td>
</tr>
<tr>
<td>4 Church Group - Georgia</td>
<td>Primary</td>
<td>(MVI)- NGO</td>
<td>Church</td>
<td>1 day</td>
</tr>
<tr>
<td>5 Audiologists – New Mexico</td>
<td>Specialty</td>
<td>Clínica Fara - NGO</td>
<td>NGO</td>
<td>2 days</td>
</tr>
<tr>
<td>6 Mother’s Day Group - Matagalpa</td>
<td>Specialty</td>
<td>MINSA</td>
<td>Public Park</td>
<td>½ day</td>
</tr>
<tr>
<td>7 Church Group - Maryland</td>
<td>Primary</td>
<td>Local Church</td>
<td>Church</td>
<td>1 day</td>
</tr>
<tr>
<td>8 Church Group – Nicaragua</td>
<td>Primary</td>
<td>Local Church</td>
<td>Church</td>
<td>1 day</td>
</tr>
<tr>
<td>9 Church Group – Florida</td>
<td>Primary</td>
<td>Local Church</td>
<td>Church</td>
<td>1 day</td>
</tr>
<tr>
<td>10 Audiologists – Arizona</td>
<td>Specialty</td>
<td>Clínica Fara – NGO</td>
<td>NGO</td>
<td>1 day</td>
</tr>
<tr>
<td>11 Gastrointestinal Surgeons - Arizona</td>
<td>Specialty</td>
<td>Clínica Fara – NGO</td>
<td>NGO</td>
<td>3 days</td>
</tr>
<tr>
<td>12 Nicaraguan Physicians</td>
<td>Primary</td>
<td>MINSA</td>
<td>Various Low Income Neighborhoods</td>
<td>2 days</td>
</tr>
<tr>
<td>13 Church Group – Florida</td>
<td>Primary</td>
<td>MVI</td>
<td>Outlying Neighborhood</td>
<td>1 day</td>
</tr>
<tr>
<td>14 Church Group – Florida</td>
<td>Primary</td>
<td>MVI</td>
<td>Outlying Neighborhood</td>
<td>1 day</td>
</tr>
<tr>
<td>15 Church Group – Florida</td>
<td>Primary</td>
<td>MVI</td>
<td>Police Station</td>
<td>1 day</td>
</tr>
<tr>
<td>16 Vascular Group – Arizona &amp; Italy</td>
<td>Specialty</td>
<td>Clínica Fara</td>
<td>NGO</td>
<td>6 days</td>
</tr>
</tbody>
</table>

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23 Nicaraguan Ministry of Health (MINSA).
Table 6-2. STMMs Observed in Nicaragua Outside of Matagalpa

<table>
<thead>
<tr>
<th>STMM</th>
<th>Type</th>
<th>Affiliation</th>
<th>Location</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCLA Student Brigade</td>
<td>Primary</td>
<td>Global Medical Training – NGO NGOs</td>
<td>Rural Communities</td>
<td>4 days</td>
</tr>
<tr>
<td>Church Group</td>
<td>Primary</td>
<td>Local Church – CEPAD - NGO NGOs</td>
<td>Urban Church</td>
<td>1 day</td>
</tr>
<tr>
<td>Neurosurgeon (Training Only)</td>
<td>Specialty</td>
<td>Professional Contact</td>
<td>Public Hospital</td>
<td>1 month</td>
</tr>
<tr>
<td>Church Group</td>
<td>Primary</td>
<td>CEPAD - NGO</td>
<td>Rural Communities²⁴</td>
<td>4 days²⁵</td>
</tr>
</tbody>
</table>

**Short-term Medical Missions’ Weaknesses**

The previous papers have already addressed many of STMM's weaknesses and liabilities. Much of the current research studying STMMs has specifically pointed to the pitfalls, the exploitative nature, and the harmful effects of foreign short-term medical outreach. By shadowing STMMs for a year and interviewing the patients they treated and the physicians they collaborated with, I have been able to compile a long list of examples that illustrate the limitations of STMMs. Once again, this section is primarily focused on foreign STMMs; however, some examples of local short-term medical outreaches, such as the church-sponsored initiative in Matagalpa, display some of the same failings. Concerns are illustrated by the ethnographic data. Very often the shortcomings of STMMs are due to their tendency to address individual patients, volunteers, or outcomes, rather than the broader system or population level health and access issues.

²⁴ The STMM was going to work in a rural community, however the training I observed was in Managua at the NGO headquarters.

²⁵ I only observed one afternoon of training, but the STMM was going to provide care for four days in different communities.
Lack of Cultural and Social Education

Though many proponents for and scholars of international volunteering suggest that short-term trips can produce more globally aware and connected citizens, my research has shown that in some cases, it can foster opposing outcomes. For instance, when the “cultural education” component of a trip is reduced to 10 minutes of a multi-hour PowerPoint, and focuses primarily on food and music, it is a disservice to students and volunteers. Furthermore, when political and economic education were available, they fell short of explaining the causes of poverty. Learning the average daily wage did help visitors understand the poverty many Nicaraguans struggle with, but it did not explain why a country so rich in natural resources is so financially bereft. Volunteers are not given the tools to understand inequality within the country, or the relationship that Nicaraguans have to the U.S. politically, historically, or commercially. When these differences and realities are not explained, it leaves foreigners to draw their own conclusions, often resulting in a reductionist view of poverty.

Many times I saw this lack of cultural, political, economic education result in students’ enacting symbolic violence via the naturalization of social and economic inequalities (Bourdieu 2002). This process reduces the asymmetries between Nicaraguans’ and volunteers’ lives to pre-existing factors that cannot be changed. Educating foreigners so simplistically about countries in the global south, such as Nicaragua, can prevent students and volunteers from having meaningful interactions and inhibit their ability to understand the new realities they are exposed to abroad.

Students from UCLA watched, eyes glued to the windows as we passed unpainted, dirt-floor homes. There were often barefoot children outside, playing in yards that were cut by hand with weathered machetes. Students would whisper about the
disparity that they saw as the bus rattled past the unfinished homes, or as patients filed into their short-term clinic for a diagnosis and baggie of medication. Volunteers wrestled with this in many different ways, but certain volunteers from each group always seemed to arrive at the conclusion that this devastating kind of poverty must be the Nicaraguans’ fault. I would overhear conversations of students’ musings, “It just seems like they don’t work very hard here. If they worked harder they would have a better medical system. I guess that is why we are here.”

Conversations such as these erased the decades of a U.S. backed dictatorship, the hard-fought revolutionary war for freedom, and the subsequent war funded by the CIA. The purposeful destruction of health centers, the divergence of funds away from social services, and the crippling economic policies rarely factored into the volunteers’ analyses. Rather the volunteers often felt that Nicaraguans were just lucky to receive the ‘charity’ from foreign volunteers that they did.

**Training Components**

Aside from the previously mentioned example of Dr. Reeder’s Dallas Vascular Clinic investing in a long-term training opportunity with Dr. Rocha and Dr. Santos at Clínica Fara, there were no other examples of similar in-country training happening with short-term medical groups. There was one lone physician that visited Managua annually to work at the country’s designated trauma hospital, Lenin Fonseca. Dr. Whitmer would come down from Wisconsin for a month each year (over the past three years) and volunteer to work with the neurological and spinal injury cases in whatever capacity he could.

Although he was not one of the STMMs I studied in Matagalpa, I did have the opportunity to shadow him one morning at the hospital. Every morning the first thing the
chief of neurology, staff, and medical residents would do was review the cases that came in the evening before. Dr. Whitmer was able to serve as a consultant in some cases. He had over 40 years of experience and had dealt with an incredible breadth of brain trauma over the years. His Spanish, however, was abysmal. Much of what he tried to explain to the Nicaraguan staff was lost, despite the best efforts of the moderately fluent in English chief of neurology. Thus, the educational component was limited. Residents and staff were likely able to learn new methods by observing him in surgery, but it was more of an ad hoc approach to learning for whomever might be assigned to work with him each day and able to glean something from his skill set, by sharing medical knowledge or training.

In fact, it appeared the Nicaraguan doctors hired on or volunteering with U.S. groups were the ones contributing to healthcare systems in the U.S. They would walk students through the thought processes when treating patients, work with them to learn which questions they should ask next, and how to observe other things that the body may tell them that the patients did not. The skills learned working abroad in different health settings have been discussed as immensely beneficial to the next generation of health practitioners (Gupta et al. 1999; Panosian and Coates 2006). Among U.S. medical students, global healthcare experiences have been found to provide “medical knowledge, reinforce physical examination skills, and encourage practicing medicine among underserved and multicultural populations” (Drain et al. 2009: 2). Because of these benefits, global healthcare experiences are highly recommended to medical students from wealthier countries, such as the U.S. Thus, it could be argued that
sending U.S. medical volunteers out of the country strengthens the U.S. health care system more than it benefits the countries receiving medical teams.

Re-evaluating whom STMMs are most likely to benefit, allows us to re-visit the “ethical imperative” to help provide healthcare to the most vulnerable populations that many physicians feel compelled by to (O’Neil 2006: 846). This does not suggest that we should not all be moved and motivated by moral and ethical concern for our fellow human beings, but rather that we should wait to exercise, or be prepared to re-evaluate our approaches, after analyzing the impact of our “imperatives.”

**Integrating into Existing Systems**

The social network analysis portion of the study illustrated that while STMMs in Matagalpa achieved varying degrees of integration into the city’s healthcare system, in general they were all peripheral providers. Qualitative research suggested that STMMs partnering with local health related NGOs may be more effective at reaching the most vulnerable citizens, as compared to STMMs working in public hospitals or churches.

Data also suggested that people using local health related NGOs may be more likely to access STMM services. Of the 12 different households that used STMM services, 75% also used NGO services – compared to only 58.5% of the rest of the population. Ten of the sixteen STMMs that visited Matagalpa during the study period were hosted by established local NGOs. In addition, six of those ten were STMMs that provided specialty surgical care (out of only seven total STMMs that provided specialty care). This suggests that Matagalpan NGOs’ patients may be more likely to receive specialty care from a visiting STMM.

Interview data however, suggested that STMMs were largely seen as exclusive and elusive services. There were constant refrains of “Oh no, I cannot visit that brigade
“STMMs” or “I don’t even know how to find them [STMMs].” STMMs were yet another set of services in Nicaragua, similar to the health clinics for the insured population, or the private clinics, that the large majority of citizens were unable to access; nonetheless, they were highly desired, especially foreign teams. Short-term medical groups from abroad were generally viewed as the highest quality care at the lowest cost to Nicaraguans. STMMs created an alternative system of access to services that in some ways translated into another set of hoops for Nicaraguans to jump through in order to access care. This left people reporting that they wished there were more STMMs because then they might have a greater chance of gaining access to their elite services and supplies.

Lack of Transparency with Patients

STMMs’ consistent lack of transparency with patients was an issue in every observed group in the study. I never saw a foreign STMM disclose the medical credentials of its volunteers to patients. This could have been due to a lack of ability to translate the information, when there were limited or no translators, but it often seemed it was also deemed unimportant information that would be a waste of the time medical groups had with individual patients. Students and volunteers dressed in scrubs and had stethoscopes draped around their necks and charts in their hands. Donning the dress and tools of practicing medical professionals seemed to be part of the illusion for some of the volunteers. People were able to “play doctor” for a day or a week and the patients were none the wiser. Groups did not explicitly tell the Nicaraguans which volunteers were and were not doctors; instead, medical credentials were implied by their accoutrements.
The large majority of the people I interviewed who had received treatment from an STMM referred to them as large groups of doctors, or teams of doctors. This lack of disclosure is directly related to the ethical concerns of unqualified volunteers treating and interacting with patients in ways that are not safe or appropriate. There is often a blurring of ethical codes of conduct that happens in countries where healthcare services are limited, volunteer supervision is inadequate, and legal consequences are non-existent. This predicament has been written about by both STMM participants and STMM scholars (Crump and Sugarman 2008; Wall et al. 2006). As a result, various ethical codes of conduct have been drawn up by organizations that sponsor or organize STMM trips.

Individuals working to make STMM work more ethical and safe have also proposed an “International Medical Volunteer Code of Conduct” (Citrin 2010: 45). However, with an international code of conduct come doubts about the ability of countries, universities, or NGOs to effectively regulate the multitude of groups participating in STMMs. Transparency with communities is listed as a guideline for short-term medical practice in some of the conduct codes; however, it is only suggested that groups are upfront about the purpose of the trip. Although for some trips disclosing the purpose of the trip would also communicate volunteers’ qualifications, other trips would likely need a more explicit guideline about transparency so that professional skill level is also communicated clearly.

In addition to disclosing professional qualifications with patients, medical teams could also do a better job of making their examinations more transparent. Often a language barrier between volunteers and patients hinders the ongoing communication.
expected during a medical exam, thus placing the burden on the translators. After observing twelve different STMMs throughout Nicaragua, I was privy to many instances where patients were given little to no information during examination. If their case happened to be something of interest or a potential learning moment for other providers or students, a large group would form around them speaking in another language, pointing and gesturing to the patient’s body. Examples of this have been mentioned throughout the dissertation, Esmelda – the mother of the two ill boys, Mrs. Llantos – the vascular groups’ success story and Marixa – the woman from Waswala.

Again, the lack of communication with patients during exams does not seem to be an intentional behavior for STMM participants, but it could be modified if groups were more explicit about asking translators to explain the exam to patients as a process, rather than just an end result. Although these specific implementations of transparent medical practice were not found in existing codes of conduct, they could be added to the codes, as well as explained during training programs for volunteers.

**Cost Effectiveness**

Although decreasing global airfare costs have helped to make travel more affordable, STMMs are by no means cheap. In addition to airfare and visas, participants usually pay an organization to sponsor them while in country (providing room, board, and domestic travel), and commit to bringing a certain amount of medical supplies. These costs can easily add up to sums between $3,000 - $5,000 USD per volunteer. One physician working in Guinea estimated that had his team donated the money they spent on the trip instead of going to provide short-term care, they would have been able to donate nearly $30,000 USD (enough to pay for half of a 30-bed wing at a local hospital) (Bellows 2014).
In a country of 5.6 million that spends roughly $34 USD per person, or less than $200 million, on annual health expenditures, the kind of money STMMs are spending could make a big difference in local infrastructure (WHO 2014). In the city of Matagalpa alone there were 16 short-term clinics offered. While some of those were put on by the same groups of volunteers -- for example, one group had three different clinics across town -- the majority were separate groups. Out of the 16 short-term clinics, ten were separate groups from the U.S. or Italy that came to provide care. With an average of 17 participants per STMM, there were roughly 200 people traveling to one mountain town in Nicaragua in a year to provide short-term medical care. An average estimate of flight costs, program fees, and donations totaled $1500 per person, meaning that those 200 volunteers could have contributed $300,000 USD to Matagalpa’s healthcare system had they stayed home instead.

While certainly this type of trade-off, donating funds and forgoing the travel and volunteering, is an unlikely prospect, it does put into perspective the type of money that comes into countries via STMMs. This amount of money would be meaningful in a city that is unable to keep even basic medicines stocked at the health centers and hospital. It could also be used to hire more doctors and nurses, or to expand the crowded centers so that more patients could be treated at once. Although it could be argued that sending money would not build global consciousness and connectivity, I would argue that such selflessness and awareness of the global healthcare system would most likely be the product of increased consciousness and connection. Donating supplies and money would be a way to shift the focus from the success stories of individuals served by “Aid
Cowboys” to the success of a country’s healthcare system, enabling it to reach its goal of universal coverage (WHO 2010).

**Accessibility of Services**

One of the main issues voiced by Nicaraguan participants, and discussed previously, was the limited accessibility of urban STMMs. This was often due to the limited number of STMMs, but also the feeling that STMMs were not for everyday Nicaraguans. The text analysis revealed that many people felt that they did not have the right connections to people in charge of organizing STMMs, or the local social standing to access them.

Accessibility of STMM services was thus an issue at the patient level, but also at a system level. The network data raised questions of whether or not patients who used NGOs’ health services were more likely to access STMM care and specialty STMM care in particular. Ideally if STMMs are to be equally accessible to all, or perhaps even more accessible to those most in need (Farmer 1999), then there would be a better way to communicate the services to the community and identify those people, free of political, religious, or social connections. However, this is difficult to imagine when very often STMMs are so focused on their own short-term initiatives or larger parent organizations, they do not spend time or resources making connections with local health services or other foreign short-term providers.

Paulette West, a representative from The United Methodist Church’s Committee of Relief (UMCOR) and a Nicaraguan medical mission volunteer, detailed the extensive networking between United Methodists in an interview. She also noted the lack of collaboration between their short-term missions and other medical groups working in Nicaragua:
We always work through our system within Methodist churches. In Nicaragua they are part of Methodist churches of the Caribbean and Americas. They have their own structure but connect through the World Council of Churches and collaborate with other Methodist entities. I don’t know if they work with other groups…If they do, no one has told me about it – that would be a job for another office.

Paulette’s interview illuminated something that has been observed among other missionary projects: the difficulty of fostering collaboration between different denominations. Lisa L. Ferrari found the lack of collaboration between Protestant and Catholic mission health workers in sub-Saharan Africa to be tactical in nature. Deeply entrenched philosophical differences guided the denominations’ preferred methods of practice and created an environment unfavorable to compromise. Ferrari concluded that the lack of partnering resulted in reduced effectiveness of aid delivered by all groups (2011).

Paulette’s narrative, however, points to the lack of established channels of communication and partnership between different denominations as the main cause of non-collaborative work abroad. She was able to describe in great detail the inner-workings of Methodist collaboration, even among “different flavors of Methodists,” but she was largely unaware as to opportunities for Methodists to collaborate, or even communicate, with other denominations or secular health related organizations working in Nicaragua. She similarly noted that aside from filing the basic paperwork with the Ministry of Health, there was little to no follow-up with any governmental or local health entity during their service trips. Insular attempts to improve the health of Nicaraguans further limit which citizens are likely to learn about and access STMM services, reproducing hierarchies of access and feelings of disempowerment.
Sustainability

Short-term health initiatives do have long-term effects. However, those long-term effects are not always related to improved health outcomes. As an earlier paper argues, STMMs re-order local healthcare systems in ways that might actually weaken the state’s ability to provide healthcare to its citizens. STMMs were also found to create an alternative system of care that created both familiar and unfamiliar hoops for patients to jump through in order to receive care, making Nicaraguans feel further distanced from local health options and disempowered in their attitudes toward healthcare access.

As other STMM scholars concerned with sustainability have noted, short-term solutions often do not provide follow-up care or contribute to local infrastructure (Ott and Olsen 2011). However, this research also highlights issues of integration and exclusion. Another challenge to achieving more sustainable improvements in local and global health relies on the ability of states, STMMs, NGOs, and other stakeholders in global health to collectively identify and implement best practices for short-term medical services. This would be reconciling different agendas and being open to re-visiting and evaluating the agreed upon best practices as new information is gathered. The improvement and local adaptation of STMMs should be a continual and collaborative process. There should be system level evaluations of the growing sector of global health care as well as local assessments, addressing the best ways for communities to adopt and use these resources.

Benefits of Short-term Medical Missions

The numerous ethical and practical concerns about STMMs have been raised and explored, but it is also important to study the potential system-level benefits and individual beneficiaries of STMMs. One of the main ways that STMMs are able to
improve existing healthcare systems is by providing services that are otherwise unavailable. While in rural Nicaragua, beneficial care may include basic primary attention; however, in urban areas it would more likely be specialty services such as surgical care and eye exams that patients and healthcare systems were able to benefit from.

There are shocking stories that illustrate the ability of STMMs to provide the right care at the right time; stories where lives hang in the balance and history takes a new course. Though I never saw life-saving surgeries being performed, I did witness many limb-saving procedures by the vein brigades. I also learned that Sylvia considered her brother’s brain surgery by the visiting specialist in Managua to be “life-saving” though questions remain whether that care could have been administered by the local surgeons.

The majority of stories I heard and treatments I observed, however, were not about life and death or limbs. Rather what hung in the balance was an improved quality of life, better vision, less chronic pain, and quieted worries. One of the experiences that made me first interested in studying STMMs in Nicaragua was the one that Sandra shared with me in the summer of 2010. Sandra was a single mother who worked (without pay) at a women’s cooperative and at 43 years old, she was already a grandmother. Sandra lived in a lower-income neighborhood and struggled to scrape together money for the essentials – the same as the majority of her neighbors. Although Sandra was able to visit the public health facilities easily enough, her daughters stayed at home and the cooperative was flexible with her work schedule, Sandra was still unable to access specialty care unless it was at the public hospital.
Throughout the research I found that many families had similar access to specialty services. In very serious cases families would take up money from neighbors, or loans from employers to pay for private services. These were situations where the timeline for care was unbearable (often between 3-6 months to see a specialist and then another 3-6 months for surgery) or the type of care needed was not offered at the public facilities. Eye exams fell into this category. Even if a prescription was able to be attained (rarely were ophthalmologists located in public health facilities), glasses were not affordable for the large majority of Nicaraguans.

Sandra knew her eyesight had weakened significantly in her late teens, but it was never enough to be considered an emergency. She never sought out the specialty care of an ophthalmologist in large part because she knew it wouldn’t matter if she couldn’t afford the glasses they prescribed her. However, one day on her walk home for lunch in Ciudad Sandino her cousin ran into her and told her there was an STMM in town, at a nearby school, giving out eyeglasses. Sandra went immediately, skipping lunch and returning late to her shift at the cooperative. An hour after the rest of us began to work again, Sandra arrived wearing her very first pair of glasses, eager to pass them around to the rest of her work companions.

In this small but significant way, Sandra’s life was improved by the STMM and their glasses. She reported having an easier time not only at work, but also at home. Her story is yet another example of the fortuitous ability of STMMs to improve access to healthcare and contribute meaningful services. Despite, the unrepeatable nature of this incident, it was an outcome that lasted long enough to at least show the potential for STMMs to contribute in more meaningful ways.
Despite the negative interpretation of primary care services in urban areas, in rural areas primary care STMMs were able to offer care that was often otherwise unavailable in Nicaragua and fill in system-level gaps in service. This was especially true in the autonomous region of the Caribbean coast (known as RAAS and RAAN). The northeast region of Nicaragua has always been the most autonomous region of the country, but with the independence from the state also comes a lack of infrastructure. RAAS has the worst health indicators in the country (Krasnoff and Jastrzembski 2013). NGOs such as Acción Médica Cristiana (AMC) coordinate STMMs that want to visit RAAS and RAAN.

During an interview with Gerardo Gutierrez, a medical doctor with a Master of Public Health, and also one of the AMC coordinators, he told me that the quarterly trips that the organization makes to the Caribbean are some of the only primary healthcare options residents have. Although his view of the importance of the NGO’s work may be biased, Dr. Gutierrez was right - without STMMs bringing in primary care physicians (including himself) and medicines, the Caribbean residents have far less access to even basic care than the rest of the country.

The work that AMC coordinates in rural areas of Nicaragua, along with the specialty care provided by visiting ophthalmologists in Ciudad Sandino are two examples of STMMs supplementing state care in a meaningful way. Although it is likely that on some levels these short-term health initiatives are still perpetuating inequalities, the tangible outcomes of their work and their ability to work with an existing healthcare system, complicate their presence in Nicaragua.
Theoretical Significance

As the previous sections highlighted, the mission and work of STMMs have an array of practical consequences for volunteering participants, local patients, and the global healthcare system. There are also significant theoretical consequences of this research. Studying STMMs as parts of larger global and local healthcare systems contributes to a broad range of theory including: theories emerging about the expanding role of STMMs in global healthcare system, development theory and critical medical anthropology.

This study explores the relatively recent addition and annually increasing numbers of STMMs to health care systems of the poor (Hershberger 2004, Sykes 2014). STMMs' longer-term counterparts and development colleagues - NGOs, charities, IGOs, bilateral donors, and development banks have become “normalized key players in national and global politics” (Bernal and Grewal 2014: 1). Correspondingly, there has been a significant amount of work advancing the study of these civil society actors, IGOs, and bilateral aid agencies, in global health systems. In order to understand how STMM scholarship is unfolding, it is useful to examine the existing development literature that has examined more permanent attempts to intervene in existing healthcare systems. Scholars from a variety of fields have studied how the longer-term non-state actors, supplant (James and Corbett 2009), undermine (Pfeiffer et al. 2008) support (Ejaz et al. 2011), and further fragment existing healthcare systems (Abramowitz 2014).

Despite their recognized and renowned status, theorizing about NGOs has been complicated due to the incredibly diverse origins and purposes of NGOs. Developmental actors are not a “unified field of power” thus, theorizing about them as
such is fraught with complications (Bernal and Grewal 2014:3). This diversity and complication in theorizing certainly extends to the area of short-term medical missions.

Although STMMs work all over the world, they are still finding their way into the scholarly literature. In fact, there is still no broadly agreed upon term for them. Short-term medical mission (STMM) does seem to be the most widely used, and thus I use it for the sake of bridging scholarship and facilitating dialogue, but the word mission communicates a religious or spiritual component of short-term health delivery that many of the actors do not reflect in work or positioning. Thus, other scholars have referred to them as, short-term medical service trips (Sykes 2014), short-term experiences in global health (Crump and Sugarman 2010), or short-term medical volunteer work (Green et al. 2009) in an effort to be more descriptively accurate.

Despite the lacking consensus on an appropriate name for short-term medical initiatives, there has been much agreement about the main concerns associated with them, as well as the great potential for them to become more normalized and key players in global health. These findings were complicated to analyze and interpret. Most respondents wanted more STMMs in their healthcare systems, even though many had never had an experience visiting one. My analysis however, found that STMMs can undermine state efforts to improve health infrastructure, and leave patients feeling further disenfranchised from healthcare opportunities. This paper does end with policy recommendations, in an attempt to improve the growing number of short-term health actors, but these recommendations are issued with strong reservations about ability of STMMs to provide ethical care that can address the structural inequalities of rather than individual patients.
Mapping patients’ use of STMMs within a larger network of healthcare providers offered a “nuanced social and cultural assessment” of the healthcare systems available to the urban poor (Hahn & Inhorn 2009:5) while addressing the continued problem of insufficient access despite the increasing numbers and types of providers available. The in-depth examination of STMMs’ role within the Matagalpan healthcare network revealed that STMM services are only peripheral players in the network, but they are able to achieve varying degrees of integration into the system. Understanding the roles that STMMs do and can play in healthcare systems, provides hope that perhaps more short-term trips can integrate into the existing systems that serve patients. Short-term outreaches may even have the flexibility and funds to reach the patients who current systems cannot. If short-term missions can find long-term partners and make annual commitments it is likely they can contribute to health systems in more meaningful ways, addressing real issues of access.

As STMMs become more prominent players in global health and perhaps even “normalized” they are coming under great scrutiny and closer critical study. The question remains however, if this additional academic and public attention will translate into greater pressure for STMMs to follow a “Code of Ethics” or modify their mission and vision for providing healthcare. Perhaps an international board of review will emerge to regulate the unethical medical practices, and encourage partnerships with state services. However, this too would not be without issue or complications.

This research answers the call for more in-depth and ethnographic research on the diverse population of temporary healthcare providers. It is interesting that many of the findings paralleled those about STMMs’, longer-term civil society counterparts –
NGOs, IGOs, and bilateral aid organizations. This section explored how STMM scholarship has been following similar threads of development discourse, adding new considerations to old questions. The following section explores how the growth of STMMs globally has also followed a precedent set by NGOs.

Although STMM literature and theory is still emerging, in many ways the rise of STMMs mirror the “NGO boom,” (DeMars 2005; MacDonald 1995) but on a much smaller (less STMMs and less funds) and short-term scale. Nonetheless, some of the same debates and concerns about NGOs' role in the global system, development, and civil society are present or emerging among scholars and participants of STMMs. In this section I first describe the often ambiguously used term “development” and then present several key discussion from NGO and development scholarship, looking at them anew, considering the growing addition of STMMs into the global health system.

Development is a weighted word. Although there are many different definitions for development varying by discipline, organization, and purpose, I find the little ‘d’ and big ‘D’ definitions and distinctions most useful (Hart 2001). Little ‘d’ development is the “geographically uneven, profoundly contradictory set of processes underlying capitalist developments” (Bebbington et al., 2005:5) This describes the broader systemic dimension of development and the global capitalist system. Big ‘D’ Development is the “project of intervention into the ‘third world’ that emerged in a context of decolonization and the cold war” (Bebbington et al., 2005:5) This is a more limited view of the processes and projects that have unfolded in the global south in the neocolonial and postcolonial eras. These definitions of d/Development are useful because they allow
NGOs, and I also argue - STMMs, to be understood as both products of development and actors in Development.

The “NGO Boom” occurred on a global scale between the late 1970s and 1990s, as international institutions spread policies that weakened national governments and created space for alternative economic and political actors (Edelman and Haugerud, 2005:7). Naomi Klein addresses the relationship more directly, drawing clear links between the implementation of neoliberal policies and the increased need for NGOs to address the growing inequalities caused by capitalist agendas (2007:562). As a result, the era of neoliberal globalization experienced the intensified involvement of NGOs in global governance, including global healthcare monitoring and provision (DeMars 2005). Though NGOs’, much like STMMs’, histories date back long before the late 1970s (Davies 2014), their significant increase in numbers gained them more prominence in global healthcare systems, academic studies, and international and bilateral partnerships (Townsend et al. 2004:872).

Comparable to the global uptick in NGOs between the 1970s and 1990s, STMMs are likely currently in the midst of their own global “boom.” The numbers of trips and volunteers have been increasing, as well as the variety in missions, destinations, and services rendered (Mainil et al. 2011). The resulting short-term healthcare provision is often uncoordinated (specifically outside of the organization), reordering local health care systems, duplicating local health efforts, and creating the same type of “unruly mélange” as NGOs often have (Buse & Walt 1997).

STMMs are intimately tied to discussions of development agendas and the long-term effects of development, but they also engage critical medical anthropology
scholarship in important ways. The influx of STMMs are constantly changing healthcare systems, and not always in positive ways. This research found STMMs can reproduce local hierarchies, further entrench feelings of disempowerment, and create alternative pathways to care – further fragmenting the healthcare system. Despite, the “good” that STMMs may do, there are also questions about the violence of medical voluntourism.

Structural violence, popularized by the work of Paul Farmer, (but coined by John Galtung) has become a way to talk about structural inequalities across disciplines. Farmer describes structural violence as, “one way of describing social arrangements that put individuals and populations in harm's way.” He further explains the arrangements are, “structural because they are embedded in the political and economic organization of our social world; [and] they are violent because they cause injury to people (typically, not those responsible for perpetuating such inequalities) (2006: 1686).

Thinking about the exploitative, divisive, and elusive nature of STMMs in urban Nicaragua, it is easy to understand them as forces that contribute to unequal and unhealthy social arrangements. STMMs are additionally becoming more normalized players in global health, and draw on long-standing narratives of philanthropic colonialism to justify their presence. Enacting scripts where receiving countries and patients have limited opportunities to reject or reform the charitable “donors,” puts people in situations where they are often forced to choose the best, bad option because they feel unentitled to critique the “gift” they are receiving.

Thinking of violence as operating along a continuum, as Nancy Scheper-Hughes and Phillipe Bourgois have, allows the relationships between violences to be more richly understood (2004). The symbolic violence previously mentioned, is active in justifying
the effects of structural violence. Symbolic violence also obscures the benefits that participants of STMMs receive, from the recipients of the care, erasing opportunities for greater equality between foreign STMMs and communities. There are sometimes unfortunate physical dimensions to the violence of STMMs as well - untended infections, botched surgeries, and expired medications are just a few examples of the very immediate and tangible repercussions of poorly administered short-term aid.

The violence in healing is a space that this research explores. It is not just the unnamed, faceless, structural forces and social arrangements, that have engendered and allowed a global health system where STMMs are justified and flourishing; it is also the often misguided intentions, and untrained hands of volunteers inflicting and reproducing inequalities among vulnerable communities.

Policy Implications

On a policy level, this research has important implications for the participants and organizers of STMMs as well as local healthcare officials and systems. To suggest that changes can be made to make STMMs more equitable, ethical, and accessible is a recognition of both the unavoidable global presence and underlying potential of short-term health outreaches. These suggestions focus specifically on ways that international STMMs can improve their service delivery for two reasons, one is that foreign STMMs make up the majority of STMMs, and also because as outside additions to an existing healthcare system they are in the position to survey and adapt to the systems they will work among. This research supports current recommendations being made across a variety of disciplines that call for greater attention to existing healthcare systems and more sustainable models of care. I also suggest that STMMs reframe of the moral
economy of medical missions and evaluate the homogenizing concepts used to
organize trips.

**Current Recommendations**

In the past decade greater emphasis has been placed on cultural education and
social analysis as part of medical professionals’ training. Similar recommendations have
been made by participants and scholars of STMMs. When observing or participating in
short-term medical outreaches, it becomes abundantly clear that significant knowledge
of the area, the population, and the greater socioeconomic realities and constraints are
necessary in order to offer appropriate care. Without information about physical and
social environments, cultural nuances, and the existing healthcare system,
recommendations can be impractical or at worst - dangerous for patients.

Although cultural competency and global awareness are often catch phrases
used to market medical trips to students and volunteers, it is typically assumed that
those are skills that will be gained during the trip, rather than before. This research
echoes the other calls that scholars and critical participants have made for more in-
depth training before working with patients, and greater supervision by local medical
professionals.

Educational improvements in STMM preparation would in many ways impact the
groups that are not medically trained more so than those that are groups of medical
professionals. However, there is still great need for STMM participants, even the
medically-trained ones to spend time studying the social, economic, and cultural
realities of the patients they hope to treat when abroad.

In addition to increased training in social analysis and cultural realities, this
research also supports current recommendations for more sustainable short-term
medical outreaches. It is likely that spending more time learning about current healthcare systems would give STMMs more opportunities to connect with local partners, such as state actors, NGOs, or private providers.

Coordination could help STMMs provide more appropriate care by letting professionals that know the needs of the community dictate what type of care is needed and the best ways to deliver it. Collaboration with existing providers could also increase their ability to create more sustainable opportunities for care. Research found that when STMMs are providing care in spaces that already are used as sites of healthcare provision, patients and medical professionals report that follow-up care is more likely. Patients enjoy knowing where to return, what the hours are, and identifying familiar local providers. Local medical professionals are able to get contact information for patients in case they need to see them again or follow-up on the care or diagnosis provided by a short-term team.

Reframing and Reevaluating Medical Mission Concepts

In addition to these current and widespread recommendations, this research suggests that the homogenization of the global south has contributed to oversimplified, one-size-fits-all approaches to health. Homogenization often results in blanket assumptions about the overall lack of healthcare in resource-poor countries. In response, foreigners frequently use “better than nothing” justifications for the lack of quality or sustainability in their healthcare provision when abroad. This year-long research, questions what short-term groups mean by “nothing” – especially when operating in an urban healthcare system, such as Matagalpa’s. This case study on Nicaragua also helps to complicate the over-generalized conceptualizations of the poor that many STMMs frame their projects around. Further, it argues for medical missions to
orient their work around the idea of health as a human right to be protected rather than a gift or service to be provided.

Matagalpan residents are not building from “nothing,” waiting for foreign groups to come for brief intervals and provide medical care. Network data found that STMMs were the least likely type of healthcare service to be used by households. Patients’ health networks were predominantly constructed out of the 108 different long-term sites for healthcare provision in their community. The Nicaraguan healthcare system continues to invest resources into facilities, medical training, and public health agendas.

This is not to say Matagalpa’s healthcare system is perfect or that universal coverage has been achieved—certainly there are still needs and concerns. However, related to the previous recommendation, the needs in urban Nicaraguan settings are different than those in rural areas. Healthcare needs in Nicaragua are also likely different than the needs in neighboring countries where governments are prioritizing privatizing national healthcare services rather than increasing investment in state infrastructure (Cueto and Palmer 2015). It is rare that communities are working with “nothing” in regards to healthcare, and each space has a different “something” that STMMs can recognize and work to compliment and support.

This idea of “better than nothing”, also sets up clear roles of benefactor and beneficiary, erasing the numerous benefits that STMM participants receive. STMMs need to reframe the moral economy\textsuperscript{26} of their missions. By framing the trips as one

\textsuperscript{26} The term moral economy was first used to reference the “traditional view of social norms and obligations of the proper economic functions of several parties in the community” (Scott 1976:3). Since Scott’s use of the concept to explore the cultural meanings in the economic behavior of Asian peasants, other scholars have developed the use of the term by applying it to modern day issues such as immigration policies in France (Fassin 2005) and the Gezira Scheme in Sudan (Bernal 1997).
group “doing good” and the other as “recipient,” STMMs can echo harmful histories, obscure realities, and hinder partnerships.

STMMs are typically framed in a way that envisions the volunteers and participants of the missions as renouncing the typical capitalist or often termed “rational” approach to economic decisions. Participants often share narratives of deep spiritual or moral concern for others that influence their decision to participate in an STMM, spending time and money in a way that does not directly benefit them. In reality there is a great amount gained by STMM participants. Those gains can include money (fundraising for airfare, etc.), skill sets, improved employment opportunities, social capital, and changed world views. Some scholars have referred to international trips as a “new form of colonialism” that uses populations and sites in the global south to “satisfy the needs of science” (James and Corbett 2009: 176). Other influential scholars have noted the exploitative nature of short-term groups (Farmer 1999), however there has yet to be large scale recognition by STMMs of what they gain from the trips, let alone a reframing of their projects.

Instead of arguing that short-term trips are service projects, or ways to “give back” as many volunteers mentioned, openly recognizing the benefits of the trips to STMM participants could help volunteers approach projects differently. In addition to acknowledging the full extent of exchange in short-term missions, framing health as a human right to be protected by all global citizens, rather than be provided and received when possible, could help shift STMMs’ narratives and their trajectories. If students, volunteers, and physicians are able to move away from explanations of healthcare services as a gift to be given, and rather see services as something that everyone
should already have access to, there is real possibility for STMM participants to connect with the larger caused of global healthcare shortages and the existing global health needs.

Openness about intentions when participating in an STMM and understanding healthcare as a basic human right may help STMM participants become more willing to participate in global health in new ways. As mentioned, donating medications directly to centers and hospitals, removing volunteers from care provision when it is unethical or redundant, and collaborating with existing healthcare providers to improve healthcare infrastructure are just some of the opportunities for more successful and equitable collaboration between STMMs and local health providers.

**Conclusion**

These policy suggestions are aimed at moving STMMs from itinerant, unattainable services for the few, to outreaches that are able to better integrate into existing systems of care. This could allow STMMs to shift from addressing the individual cases of illness, to the larger system-level issues of sustainability and access that impact healthcare systems and patient outcomes. The recommended reframing of roles and increased social and cultural education could also help STMMs to locate their work in larger patterns of global economic and social inequalities.

The network data, coupled with ethnographic research helped reveal how STMMs could achieve longer-lasting impacts by addressing specific local needs and identifying structurally and socially important network partners. If STMMs are able to collaborate with existing systems of care, such as Matagalpa’s, they have the potential to support healthcare systems provide for residents in ways that public facilities are
currently unable to (regular access to medications, specialty care, improved facilities, etc.).

While these suggestions for a multipronged approach to working with the state to strengthen infrastructure may be the best option for now – these recommendations, like any, need constant revisiting and reevaluation. And it is critical to foreground the potential violence of voluntourism in the planning and implementation of STMMs. If STMMs do not carefully consider the negative long-term effects of short-term work, they run the risk of recklessly reordering the healthcare systems they seek to support or supplement.

Nicaragua is investing more into its healthcare system and continues to work toward both greater coverage and greater range of healthcare services. The state system is not without discrimination or corruption though. Stories of dark-skinned, rural, or impoverished people being treated not only differently, but markedly worse, were not uncommon in the interviews. There were also a few Nicaraguans who expressed ideas that public services (in general) were meant primarily for the Sandinistas (those supporting the ruling democratic party).

The feelings of exclusion that participants mentioned in reference to STMMs, thus often extend even into the public sector of healthcare, though not to the same degree. In comparison, the inaccessibility of the public healthcare system was far more mild and subtle. It was not that a non-Sandinista patient would not be treated, but that sometimes pro-party patients received preferential treatment. A few participants reported that Sandinistas were at times seen first at healthcare centers, or received more attentive medical care. Although no Sandinistas reported receiving preferential
treatment, the possibility of a multi-tiered healthcare system differently serving patients is not something to be ignored, especially in the current political climate.

Daniel Ortega and his group of supporting elite continue to consolidate power in Nicaragua. Even as the country moves forward in healthcare provision, they are undemocratically making decisions that disproportionately affect the poor and marginalized in other areas, such as trade agreements, and land protection (Perez 2015). The type of socialist democracy that Ortega has been promoting, has recently been coined “Danielismo” by his critics due to the increasingly authoritarian quality of his policies and actions. Scholars recognize the improvements made in the lives of Nicaragua’s poorest citizens since Ortega’s ascension, but wonder if the Sandinista Party will eventually take the place of the dictatorship it once overthrew (Gibney 2014).

While Ortega’s governance may affect partnerships and healthcare provision in the future, right now there is opportunity to collaborate with a government that eagerly wants to provide healthcare for its citizens. Nicaragua’s recent restrictions on foreign medicines and increased attention to STMM care shows that the ministry of health is interested in making sure that STMM care is provided responsibly in its country. Dr. Víctor Jesús Méndez Dussán, a surgeon and public health evaluator for the Nicaraguan Ministry of Health (MINSA), suggests that better planned partnerships between STMMs and MINSA could be increasingly beneficial to Nicaraguan citizens. He proposes that MINSA continues to monitor and work with STMMs and that STMMs consider working within public healthcare facilities when they are able. He approves of the rural work STMMs do, noting the lack of resources to reach outlying communities throughout the country.
It is important too, to remember that Nicaraguan’s access to better healthcare does not rest solely in the hands of its current presidents, or those of the medical volunteers visiting their country each year. The ability to achieve universal coverage, expand specialty services, and provide affordable medicines are also controlled by larger political and economic factors.

For now, Nicaragua is on good terms with the World Trade Organization, the International Monetary Fund, and The World Bank (IMF 2015; The World Bank 2016; WTO 2012). The country allows sweat shops to operate in its Free Trade Zones, continues to lower tariffs for foreign businesses, and most recently agreed to cede the land rights of its citizens to a Chinese businessman for a canal project (McDonald 2015). Nicaragua is sacrificing the rights and well-being of many of its citizens to make the political and economic plays that keep the country in good standing with major international organizations and lenders, as well the individual countries that largely influence those organizations.

The country, and the current administration, have recent memories of a period when Nicaragua was considered noncompliant with global economic and political interests. For the four years that Nicaragua was under a U.S. embargo (that was ruled illegal by the International Court of Justice) the country was cut off from the majority of outside lending and trading opportunities (Kinzer 2007). This was during the height of the Contra War (1986-1990) and the country was not only unable to take care of the medical needs of its citizens, but they had a difficult time supplying education, clean water, and food (Belli 2003; Lancaster 1993). It was an era of destitution that devastated the country.
Thus, the concern over Ortega’s administration is not meant to place the onus of accessible healthcare on a specific individual, country, or even a type of medical intervention. Instead, it reminds us of the “global web of unequal relations” that we are all bound up in (Farmer 1999: 9). By creating less safe working conditions and displacing families, Ortega maintains relationships that provide funds to build health infrastructure. By allowing STMMs to visit, the country takes a gamble that the “good” the volunteers seek to do, will outweigh the reckless, unethical, or expired. At the end of this global chain of care, the second poorest country in the western hemisphere is left to assume the risk that STMMs pose to healthcare systems, and also individual citizens.

Further consideration and collaboration is necessary in order to improve the growing subsector of STMMs, but also the larger apparatuses maintaining, monitoring, and providing health globally. Working with the intended beneficiaries of STMMs in designing, improving, and implementing STMMs is an important start, and indeed some STMMs have already begun to take such steps. The larger need however, is to figure out how short-term healthcare provision can fit into a long-term plan to move towards global health equity.
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Jessica-Jean Casler grew up in various parts of Texas with a large and loving family. She graduated summa cum laude with a bachelor’s degree in 2008. After a year working abroad, she began her master’s degree research at the University of Florida in 2009. In 2015 she defended her dissertation and after graduating in 2016 she will begin a Health Services Research & Development Postdoctoral position with the Center of Innovation for Veteran-Centered and Value-Driven Care in Denver, Colorado.